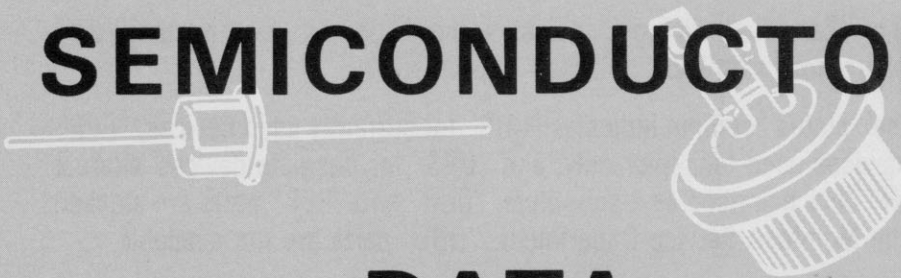
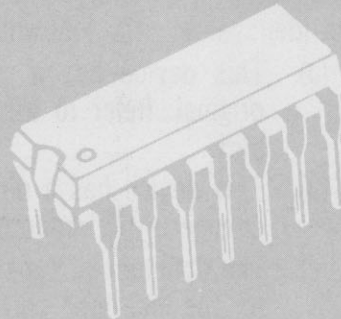
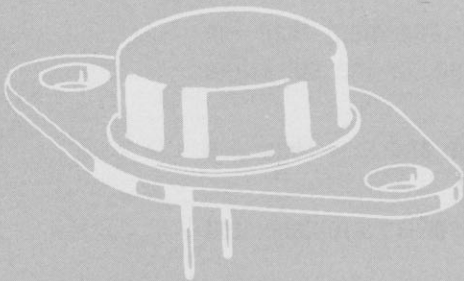


McIntosh

SEMICONDUCTOR



DATA



FEBRUARY 1979

Jose Jimenez

McINTOSH LABORATORY INC. 2 CHAMBERS STREET BINGHAMTON, NEW YORK

SEMICONDUCTOR
DATA

This manual contains information covering the semiconductor devices used in McIntosh products.

The "Part No." column indicates the McIntosh part number. Part numbers not listed were not used in production.

The "Status" column indicates "CUR" for currently used devices, "REP" for devices used for repair only, and "OBS" for obsolete devices where a "CUR" device is used as a substitute. "CUR" and "REP" parts are stocked by the McIntosh Service Department. "OBS" parts are not available.

The "Substitute" column shows the part number of a "CUR" part that can be used to replace another "CUR" or an "OBS" part. In cases where a small letter in parenthesis follows the Substitute part number the part is not identical and the following applies:

- (a) This device has a different lead arrangement than the original. Refer to the Outline Drawing for the substitute part.
- (b) This device has a different case type and may require a change in the mounting arrangement.
- (c) The Commercial Type given can be used as a replacement for the McIntosh part.

The electrical data columns indicate technical information for device testing purposes.

The "Remarks" column indicates the device manufacturer and/or certain additional information

McIntosh

ADDENDUM TO SEMICONDUCTOR DATA BOOK 039112

TRANSISTOR REPLACEMENT AND IDENTIFICATION DATA

Part Number	Status	Substitute	Outline Drawing	Marking	Color Code
132501	OBS	132093	6A	011 or S1239	BRN
132502	OBS	132094	6A	011 or S1239	BRN/BRN
132503	OBS	132093	6A	011 or S1239	BRN/WHT
132504	OBS	132094	6A	011 or S1239	BRN/BRN/WHT
132515	OBS	132028	10	028	ORN
132516	OBS	132028	10	028	ORN/WHT
132517	OBS	132036	11	036 or STD9202	RED/ORN
132518	OBS	132036	11	036 or STD9202	RED/YEL
132519	OBS	132036	11	036 or STD9202	RED/GRN
132520	OBS	132036	11	036 or STD9202	RED/BLU
132521	OBS	132023	10	023	BRN/BLK/ORN
132522	OBS	132023	10	023	BRN/BLK/YEL
132523	OBS	132023	10	023	BRN/BLK/GRN
132524	OBS	132023	10	023	BRN/BRN/ORN
132525	OBS	132023	10	023	BRN/BRN/YEL
132526	OBS	132023	10	023	BRN/BRN/GRN
132527	OBS	132024	10	024	RED/BLK/ORN
132528	OBS	132024	10	024	RED/BLK/YEL
132529	OBS	132024	10	024	RED/BLK/GRN
132530	OBS	132024	10	024	RED/BRN/ORN
132531	OBS	132024	10	024	RED/BRN/YEL
132532	OBS	132024	10	024	RED/BRN/GRN
132533	OBS	132070	11	025	BRN/BLK/WIO
132534	OBS	132070	11	025	BRN/BLK/ORN

TRANSISTOR REPLACEMENT AND IDENTIFICATION DATA

Part Number	Status	Substitute	Outline Drawing	Marking	Color Code
132535	OBS	132070	11	025	BRN/BLK/YEL
132536	OBS	132070	11	025	BRN/BRN/VIO
132537	OBS	132070	11	025	BRN/BRN/ORN
132538	OBS	132070	11	025	BRN/BRN/YEL
132539	OBS	132093	13B	041 or BC169C	RED
132540	OBS	132095	13B	041 or BC169C	RED/BRN
132541	OBS	132070	11	043	YEL/ORN
132542	OBS	132070	11	043	YEL/BLU

DIODE REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	PRV Volts	Diodes-Rectifiers			Zener Diodes			Remarks
									If mA	Ir μ A	Vz Volts	Tol. %	Pd mW		
070001	OBS	070020			RD/GN/YL	20	Si							Varactor	
070002	OBS	070085	IN754A			20	Si				6.8				
070003	CUR	070052	IN541/542		BLK	20	Ge	45	10	18					
070004	OBS	070031				34A	Se							Use 4x070031	
070005	OBS	070031	GE-20PH6		RED	35	Se	380	65						
070006	OBS	070059	597M-27			21	Si	600	500						
070007	OBS	070059	IN2863			21	Si	500	500						
070008	OBS	070031	IN1217			21	Si	50	1.6A						
070009	OBS	070031	IN647			20	Si	400	400						
070010	OBS	070031	IN3756			21	Si	400	150						
070011	OBS	070066	IN758A			20	Si			10	10	250			
070012	OBS	070025	IN982B			20	Si			75	20	400			
070013	OBS	070031	SR132A114			34B	Se		300					Use 2x070031	
070014	OBS	070031	A13AX9			25	Si	100	1A						
070015	OBS	070031	A13DX8			25	Si	400	750						
070016	OBS	070095	A13MX8			25	Si	600	750						
070017	OBS	070095	A13NX8			25	Si	800	750						
070018	REP		EDAL-G6R19H			36	Si	1200	10						
070019	OBS	070031				28	Se							Use 2x070031	
070020	REP		V13	020	BRN	20	Si							Nucleonic-Varactor	
070021	OBS	070061	IN4744			26	Si			15	10	1W			
070022	OBS	070047	IN914A	022	BLU	20	Si	75	20	5					
070023	OBS	070035	IN754A	023	RED	20	Si				6.8	5	400		
070024	OBS	070066	IN758A	024	ORN	20	Si				10	5	400		
070025	CUR		IN982B	025	YEL	20	Si				75	5	400		
070026	REP		G4R48H			37	Se	3000	4						
070027	OBS	070041	IN4720			21	Si	100	3A						
070028	OBS	070031	IN4001			26	Si	50	1A						
070030	OBS	070031	IN4816	030	BRN	24	Si	50	1.5A						

DIODE REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	PRV Volts	Diodes-Rectifiers		Zener Diodes		Remarks
									If mA	Ir μ A	Vz Volts	Tol. %	
070031	CUR		IN4820	031	RED	24	Si	400	1.5A	5.6	10		
070032	OBS	070059	IN4822	032	DRN	24	Si	600	1.5A				
070033	OBS	070059	IN5053	033	YEL	24	Si	800	1.5A				
070035	REP	070085(b)	F2901			68	Si						
070036	OBS	070043	398P			24	Si	700	3A				
070037	OBS	070053	IN3050B			24	Si			180	5	1W	
070038	CUR		IN3492R			22	Si	100	18A			Anode Case	
070039	CUR		IN3492			22	Si	100	18A			Cathode Case	
070040	OBS	070046	STB581			23	Si			1.46	2	@25mA Stabistor	
070041	CUR		398B	041	GRN	24	Si	100	3A				
070042	OBS	070048	IN966A	042	GRN	20	Si			16	10	400	
070043	REP		IN4724			21	Si	800	3A				
070044	CUR		PD40			30	Si	400	2A			Full Wave Bridge	
070045	OBS	070051	PD05			30	Si	50	2A			Full Wave Bridge	
070046	CUR		MZ2361	046		29	Si			1.34	2	@10mA Stabistor	
070047	CUR		IN4148	047	BLU	23	Si	75	10	25N			
070048	OBS	070099	IN966B	048	WHT	20	Si			16	5	400	
070049	OBS	070065	IN4749A	049		26	Si			24	5	1W	
070050	OBS	070092(b)	MDA990-2	050		39	Si	100	27A			Full Wave Bridge	
070051	CUR		PE05			30	Si	50	4A			070003 Selected for Vf .5V	
070052	CUR			003	BLK/GRN	20	Ge	45	2	18			
070053	REP		3T2180B			24	Si			180	5	3W	
070054	REP		B2X61-C51			20	Si			51	5	1W	
070055	CUR		MPN3401			41	Si	35				Pin Diode	
070056	CUR		T1L209			43	GaAsP					L.E.D.	
070057	CUR		IN750A			20	Si			4-7	5	400	
070058	OBS	070087	MR992A			42	Si	2000	250	100			
070059	CUR		IN4006			26	Si	800	1A	30			
070060	REP		ZB200B				Si			200	5	1W	

DIODE REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substi- tute	Comm. Type	Marking	Color Code	Outline Dwg.	Mate- rial	Diodes-Rectifiers			Zener Diodes		Remarks	
								PRV Volts	If mA	Ir μ A	Vz Volts	Tol. %		Pd mW
070061	CUR		BZX61C15			20	Si				15	10	1W	
070062	CUR		IN987B	062	GRN	20	Si				120	5	400	
070063	REP		IN4751A			26	Si				30	5	1W	
070064	CUR		IN968A			20	Si				20	10	400	
070065	CUR		BZX61-C24	065		20	Si				24	5	1W	
070066	CUR		BZX61-C9V1			26	Si				9	5	1W	
070067	REP		JRC16361			20	Si							Varactor
070068	REP		1S188			20	Si				16	5	1W	
070069	REP		IN34A			20	Ge	5	60	5				
070070	REP	070047	1S2473			20	Si							
070071	REP		V06C			25	Si							
070072	REP		V05C			25	Si							
070073	REP													Zener Diode
070074	REP		WZ162			20	Si				16	5		
070081	CUR		HP5082-2800			20	Si	(2 pF)	50	0.2				Schottky
070085	CUR		IN5234B	085		42	Si				6.2	5	500	
070087	CUR		MR250-2	087		26	Si	250	2000	100				H.V. Rectifier
070088	CUR					59	Si				5	10	300	
070089	CUR		IN5862	089		48A	Si				16	5	500	
070090	OBS	070066	IN4740A			26	Si				10	5	1W	
070091	CUR	070065	IN5252B	091		20	Si				24	5	500	
070092	CUR		MDA3502	092		60	Si	35A	200					Bridge Rect.
070093	CUR		5082-4658			66	GaAsP							L.E.D.-Red
070096	CUR		MZ2361	096		29	Si	Vf=1.01 to 1.11 @500 μ A						Double Junction
070097	OBS	070089	HA5245			23	Si				15		400	
070098	CUR		FDH400			23	Si	500	175	100				
070099	CUR		IN5242B	099		20	Si				12	5	500	

DIODE REPLACEMENT - INDENTIFICATION AND TEST DATA

Part No.	Status	Substi- tute	Comm. Type	Marking	Color Code	Outline Dwg.	Mate- rial	Diodes-Rectifiers		Vz Volts	Zener Diodes		Remarks
								If mA	Ir μ A		Tol. %	Pd mW	
070100	CUR		MV5753			43	GaAsP						L.E.D.-Red
070101	CUR		IN972B			23	Si			30	5	400	
070102	CUR		IN978B			23	Si			51	5	400	
070103	CUR		IN5248B			20	Si			18	5	500	
070104	CUR		MBD101			48A	Si						Schotty
070105	CUR		MV104			13F	Si						Varactor
070106	CUR		LTE-PN-LS129			68	Si	Vbes = .266 to .294 @ 30mA					Trans. Used as Diode
070108	CUR		MV5075			66	GaAsP						L.E.D.-Red
070109	CUR		MV5374C			66	GaAsP						L.E.D.-Yellow

THYRISTOR & TRIGGER REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substi- tute	Comm. Type	Marking	Color Code	Outline Dwg.	Mate- rial	PRV Volts	If Amps	Vgate Volts	Igate MA	Function	Remarks
131001	REP		SC41F			18		100	6	3	50	SCR	G.E.
131002	OBS	131004	2N4992			3B						Switch	G.E.
131003	OBS	131005	MAC-6-2	003		19		50	8	2.5	50	Trial	Motorola
131004	CUR		2N4991	2N4991		3B			175mA	6-10		Switch	G.E.
131005	CUR		MAC11-2	005		40		50	8	2	50	Trial	Motorola
131008	CUR		C107M1	C107		63		600	4	0.5	0.5	SCR	G.E.
131010	CUR		C107M41	C107M41		67		600	4	0.5	0.5	SCR	G.E.

TRANSISTOR REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	Polarity	Vces		Hfe		Ic Vgs	Idss	Pd @ 25°C	Remarks
									Vds	MIN	MAX	MA				
132001	OBS	132098	MA113	MA113		1	Gr	PNP	15	50		1				Motorola
132002	OBS	132095(a)	2N720	Q101		2	Si	NPN	80	45	180	2				
132003	OBS	132014	2N657	Q102		1	Si	NPN	150	25		20				
132004	OBS	132094(a)	2N3391A	004		3	Si	NPN	25	400	800	2				
132005	OBS	132095(a)	2N3053(c)	35558		1	Si	NPN	40	50	250	150				RCA
132007	OBS	132032	2N3638	007		8	Si	NPN	25	20		10				
132009	OBS	132015(a)	2N292	2N292		5	Gr	NPN	15	3	51	1				
132010	OBS	132098	2N526	010		1	Gr	PNP	30	53	90	20				
132011	OBS	132094(a)		011	BRN	6A	Si	NPN	25	200	680	50μA				Fairchild
132014	REP		SE7001	014		1	Si	NPN	150	30		30				Fairchild
132015	CUR	132087(a)	SE3001	015	GRN	6A	Si	NPN	12	20		8				Fairchild
132017	OBS	132095(a)	2N720	017		2	Si	NPN	80	45	180	2				
132018	OBS	132095(a)	2N3403	018		7/65	Si	NPN	25	180	540	2		900		
132021	CUR	132143(a)	2N3569	021	YEL	8	Si	NPN	40	90		30				
132022	OBS	132153(a)	SE7005	022		9	Si	NPN	100	50		50				Fairchild
132023	CUR		2N3767	023	BRN	10	Si	NPN	90	25		150		14W		Pa @ Tc = 100°C
132024	CUR		2N3741	024	RED	10	Si	PNP	90	25		150		14W		Pa @ Tc = 100°C
132025	OBS	132070	2N3716(c)	025	BRN	11	Si	NPN	80	25		34		150W		
132026	OBS	132095(a)	2N3417(c)	026	RED	3	Si	NPN	60	180	540	2				2N3417 = Vceo Select
132027	OBS	132032	2N3638A	027	RED	8	Si	PNP	25	80		1				
132028	CUR		2N3738	028	ORN	10	Si	NPN	120	65		50				
132029	OBS	132096(a)	2N4249	029	ORN	6A	Si	PNP	60	100	300	100μA				Fairchild
132030	OBS	132094(a)	SE4010(c)	030		6A	Si	NPN	25	300	680	50μA				
132031	OBS	132096(a)	2N4250	031	BLU	6A	Si	PNP	40	250	700	100μA				
132032	CUR	132150(a)	2N3645(c)	032	ORN	8	Si	PNP	60	50		100				
132033	OBS	132059(a)	2N4297			10	Si	NPN	250	75	300	50		20W		
132036	REP		SDT9202	036	RED	11	Si	NPN	90Vcer	20		4A		117W		Soliton
132038	OBS	132153(b)	40409	038	BRN	12	Si	NPN	80	40		100		3W		See Service
132039	OBS	132154(b)	40410	039	RED	10	Si	PNP	80	40		100		3W		Bulletin 039167

TRANSISTOR REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	Polarity	Vces Vds	Hfe Yfs MIN MAX	Ic Vgs MA	Idss MA	Pd @ 25°C MW	Remarks
132041	OBS	132093(a)	BC169C	041	RED	13B	Si	NPN	20	450	900	2		Siemens
132042	CUR		2N3405(c)	042		7/65	Si	NPN	60	180	540	2	560	Vceo = Select
132043	OBS	132070	2N3716	043	YEL	11	Si	NPN	90Vcer	20	80	5A	100W	Pd @ Tc = 75°C
132045	OBS	132064	3N140	045	BRN	15A	Si	N	20	10		5-30	14W	Dual Gate Mosfet Pd @ Tc = 100°C-Bendix
132046	OBS	132072(b)	B5031	046	BLU	14	Si	NPN	35	60	120	500		
132047	OBS	132064	3N141	047	RED	15A	Si	N	20	10		5-30		
132048	OBS	132061(a)	40468	048	BRN	4B	Si	N	20	7.5		25Max		RCA - Mosfet
132049	OBS	132097(a)	2N5486	049	BRN	13A	Si	N	25	4	80	8-20	310	Motorola
132050	OBS	132185(a)	BC169C	050	GRN	13B	Si	NPN	60	450	900	2		Siemens Noise + Vceo Select
132051	OBS	132185(a)	BC107B	051	ORN	2	Si	NPN	60	240	500	2		Siemens Noise + Vceo Select
132052	OBS	132090(a)	2N5305	052	YEL	7/65	Si	NPN	25	2k	20k	2		Darlington
132054	OBS	132185	2N5210	054	YEL	13C	Si	NPN	50	200	600	100µA		
132055	OBS	132094(a)	2N5089	055	VIO	13C	Si	NPN	25	400	1200	100µA		
132056	CUR	132096(a)	2N5087	056	BLU	13C	Si	PNP	50	250	800	100µA		
132057	OBS	132093(a)	BC168C	057	ORN	13B	Si	NPN	20	450	900	2		Siemens
132058	OBS	132061	40468A	058	ORN	15B	Si	N	20	7.5		25Max	375	RCA-Mosfet
132059	REP		2N3739	059		10	Si	NPN	300	40	200	100	20W	
132060	OBS	132064	MFE3007	060	GRN	15A	Si	N	25	10		5-20	300	Motorola-Dual Gate Mosfet
132061	REP		MFE3004	061	YEL	15B	Si	N	20	2		2-10	200	Motorola-Mosfet
132062	OBS	132094(a)	2N5376	062	GRY	13D	Si	NPN	30	100	500	10µA	360	
132063	OBS	132094(a)	BC169B	063	RED/WHT	13B	Si	NPN	20	240	500	2	220	Siemens
132064	REP		MFE3009-1	064	BLU	15A	Si	N	25	6.3		5-30	300	Motorola-Dual Gate Mosfet
132065	CUR		2N4231	065		10	Si	NPN	40	50		500	20W	
132066	CUR		2N3866	066		1	Si	NPN	30	10	200	50	5W	
132068	CUR	132097(a)	2N5484	068	BRN/ORN	13A	Si	N	25	3	6	1-5	310	JFET
132069	OBS	132185(a)	2N5210	069	WHT	13C	Si	NPN	60	200	600	100µA	310	Motorola = Vceo Select
132070	CUR		2N5303	070	GRN	11	Si	NPN	80	30	90	5A	100W	Pa @ Tc = 75°C
132072	CUR	132080	2N4922	072		32	Si	NPN	60	40		200	30W	
132073	OBS	132097(a)	2N5486	073	BRN/RED	13A	Si	N	25	4	8	12-18	310	JFet = Idss Select

TRANSISTOR REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	Polarity	Vces		Hfe		Yfs		Ic Vgs	Idss	Pd @ 25°C	Remarks
									Vds	Vds	MIN	MAX	MA	MA				
132074	OBS	132096(a)	BC159B	074	BLU	38A	Si	PNP	20	20	240	500	2		2	220	220	Siemens
132075	OBS	132094(a)	BC147B	075	BRN	38A	Si	NPN	45	45	240	500	2		2	220	220	
132076	OBS	132087	2N5222	076	SIL	13C	Si	NPN	15	15	20	150	4		4	310	310	
132077	OBS	132094(a)	BC148C	077	RED	38A	Si	NPN	30	30	450	900	2		2	220	220	Siemens
132078	CUR	132102	MJE-341	078	RED	32	Si	NPN	150	150	20	20	20		20	1W	1W	Motorola
132079	CUR			079	OR	32	Si	PNP	90	90	40	40	150		150	30W	30W	
132080	CUR			080	YEL	32	Si	NPN	90	90	40	40	150		150	30W	30W	
132081	CUR			081	GRN	32	Si	NPN	90	90	60	60	50		50	30W	30W	
132082	OBS	132110(a)	BF194	082	ORN	38B	Si	NPN	20	20	115	115	1		1	220	220	Siemens
132085	OBS	132070	2N5303	085	ORN	11	Si	NPN	80	80	10	10	5A		5A	200W	200W	
132086	CUR		MEM655	086	BRN	15B	Si	N	20	20	6	10	5		5	1-20	225	Gen.Instr.-Mosfet
132087	CUR		MPS3563	087	GLD	13C	Si	NPN	12	12	20	200	8		8	310	310	Motorola
132088	CUR		3N201	088	VIO	15A	Si	N	24	24	8	12				5-15		Dual Gate Mosfet
132089	OBS	132093(a)	BC169C	041	RED/GRY	13B	Si	NPN	20	20	450	900	2		2	500	500	Siemens-BC169C=NoiseSelect
132090	CUR		MPSA14	090	PNK	13C	Si	NPN	40	40	10K	10K	10		10	500	500	Motorola-MPSA14-BVcesSelect
132091	OBS	132094(a)	A136	091	RED	6A	Si	NPN			400	800	2		2	300	300	Amperex
132092	CUR	132093	BC238C	BC238C	ORN/GRN	44A	Si	NPN	20	20	380	800	2		2	300	300	Siemens
132093	CUR	132094	BC239C	BC239C	RED/GRN	44A	Si	NPN	20	20	380	800	2		2	300	300	Siemens
132094	CUR	132185(a)	BC414C	BC414C	YEL/GRN	44A	Si	NPN	45	45	380	800	2		2	300	300	Siemens
132095	CUR	132185(a)	X32W6047	095	BRN/GRN	6A	Si	NPN	60	60	350	350	2		2	400	400	G.E.
132096	CUR	132056(a)	BC416C	BC416C	BLU/GRN	44A	Si	PNP	45	45	380	800	2		2	300	300	Siemens
132097	CUR		2N5245	097	BRN/YEL	45	Si	N	30	30	4.5	7.5			5-15			Texas Instr. JFET
132098	CUR			098	BRN	1	Ge	PNP			(Vces = 0.266 to 0.294 Va)		30 MA					
132100	OBS	132182	MPSA66	100	BRN/BLU	13C	Si	PNP	30	30	75K	75K	10		10	500	500	Motorola-Darlington
132102	CUR		MJE340	102	BLU	32	Si	NPN	220	220	20	20	1		1	1W	1W	Motorola
132103	OBS	132164	2N5303	103	VIO/BLK	11	Si	NPN	100	100	40	40	7.5A		7.5A	200W	200W	
132105	OBS	132093	BC239C	BC239C	RED/GRN/GRY	44A	Si	NPN	20	20	450	900	2		2	300	300	Siemens-BC239C-Noise Select
132106	OBS	132065	2N6374	106		10	Si	NPN	40	40	80	80	500		500			RCA629J2
132107	REP	132097a	2SK41E	K41		13B	Si	N	18	18	7.5	7.5	18		18	200	200	2N5485/2SK41E

TRANSISTOR REPLACEMENT - IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	Polarity	Vces Vds	Hfe Yfs MIN	Hfe Yfs MAX	Ic Vgs MA	Idss MA	Pd @ 25°C MW	Remarks
132108	REP	132087(a)	2SK1047C	C1047C		13B	Si	NPN	12	20	20	8		350	
132109	REP	132087(a)	2SC710DC710			13B	Si	NPN	12	20	20	8		350	
132110	REP		BF254			47	Si	NPN	20	115	115	1			Siemens
132111	OBS	132090	MPSA13			13C	Si	NPN	30	5K	5K	10			Darlington
132112	OBS	132094(a)	2SC828R	C828		13B	Si	NPN	30	75	75	700	2	400	
132113	OBS	132093(a)	2N5210			50	Si	NPN	20	75	75	10		1200	
132114	OBS	132096(a)	2SA640K			44A	Si	PNP	50	175	175	150		400	
132115	REP		2SA684R	A684		51	Si	PNP	50	60	340	1A		7W	
132117	OBS	132056(a)	2N5087			49B	Si	PNP	50	250	250	10		310	
132118	REP		2SK34B	K34		49B	Si	N							JFET
132119	REP		2SC1124-2	C1124		52	Si	NPN	250	75	75	50		20W	
132120	REP		2SA706A706			52	Si	PNP							
132121	REP		2SD3236	2SD3236		11	Si	NPN							
132122	REP		2SC711E	C711A		13B	Si	NPN	40	100	100	10		300	
132123	REP		2SA641M	A641M		13B	Si	PNP	50	175	175	150		400	
132124	REP		2SC9450	C945		13B	Si	NPN						400	
132125	REP		2SC1321R	C1384		51	Si	NPN	50	150	150	10		50W	
132126	REP		2SC1061C	C1061		53	Si	NPN	70	70	70	1		50W	
132127	REP		2SD313	D313E		53	Si	NPN	70	70	70	1		50W	
132128	CUR	132134		132128	BLK	11	Si	NPN	100	25	25	7.5A		200W	
132133	OBS	132165		132133	RED	11	Si	PNP	100	30	30	7.5A		200W	
132134	CUR	132164		132134	BRN	11	Si	NPN	100	30	30	7.5A		200W	
132136	CUR		MPSA42	136	VIO	13C	Si	NPN	300	40	40	30		625	Motorola
132143	CUR		MPSD05	143	GRY	13C	Si	NPN	25	50	50	50		350	
132145	REP			145	GRN	12	Si	NPN	100	40	40	100			RCA
132146	REP			146	YEL	12	Si	PNP	100	40	40	100			RCA
132147	CUR		MPS-A93	147	WHT	49A	Si	PNP	200	25	25	1		600	Motorola
132148	CUR	132187	MPS-U57	148	SIL	52	Si	PNP	100	60	60	50		1W	Motorola
132149	CUR		MPS-U07	149	BLU	52	Si	NPN	100	60	60	50		1W	Motorola

TRANSISTOR REPLACEMENT - IDENTIFICATION AND TEST DATA

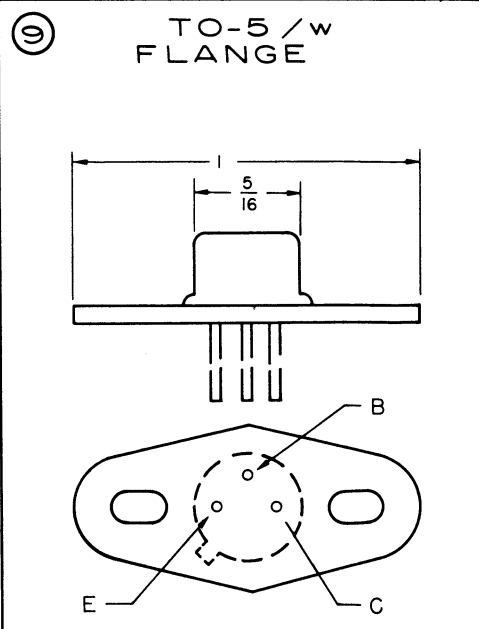
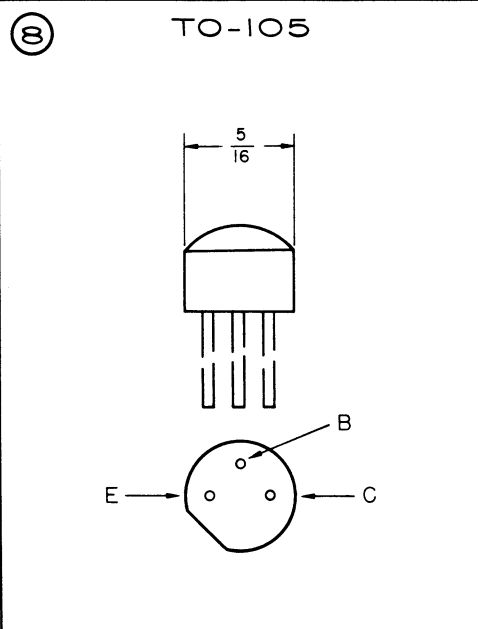
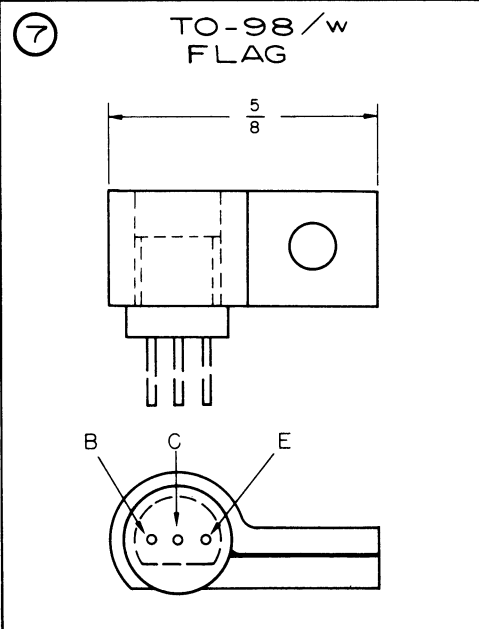
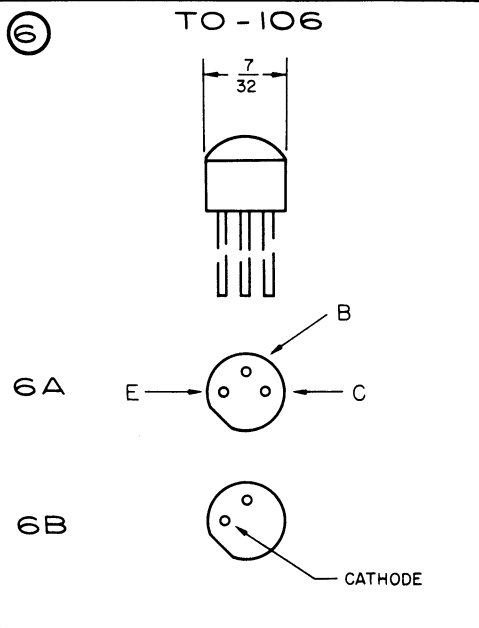
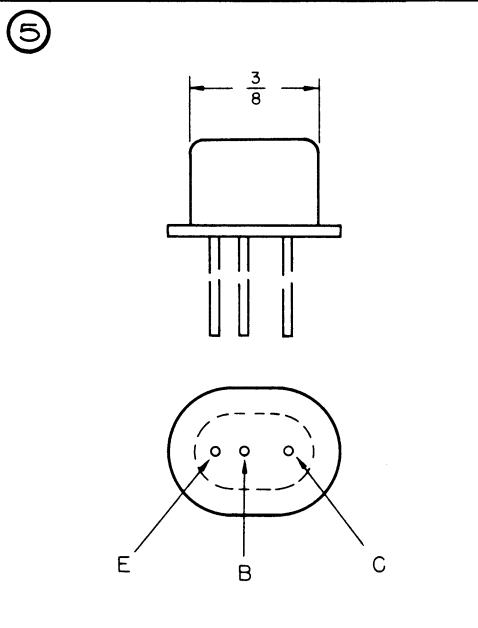
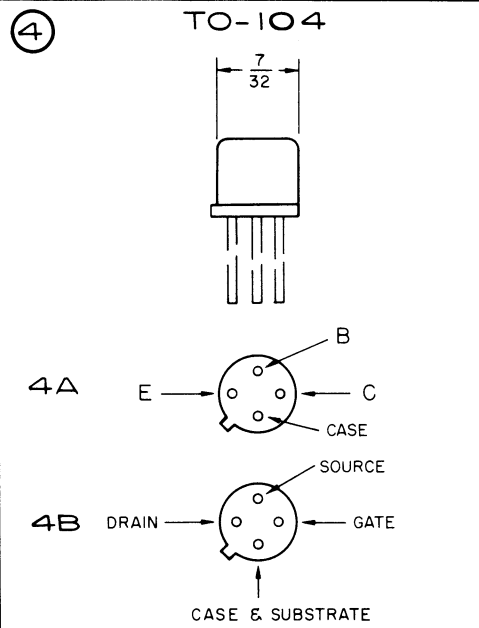
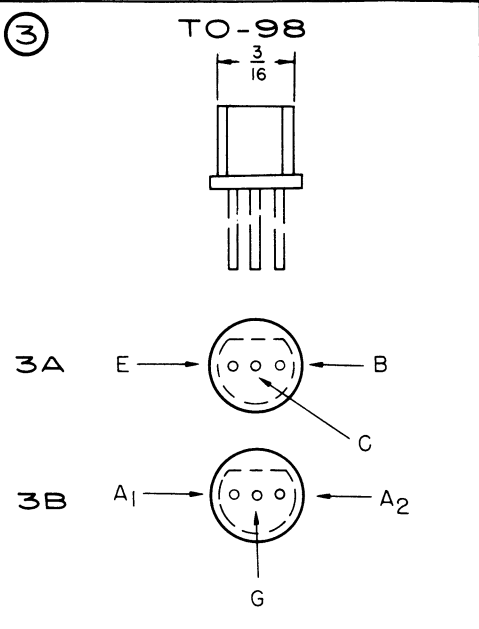
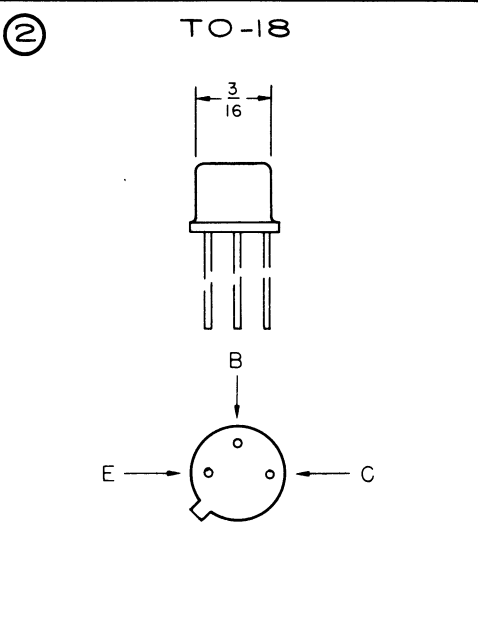
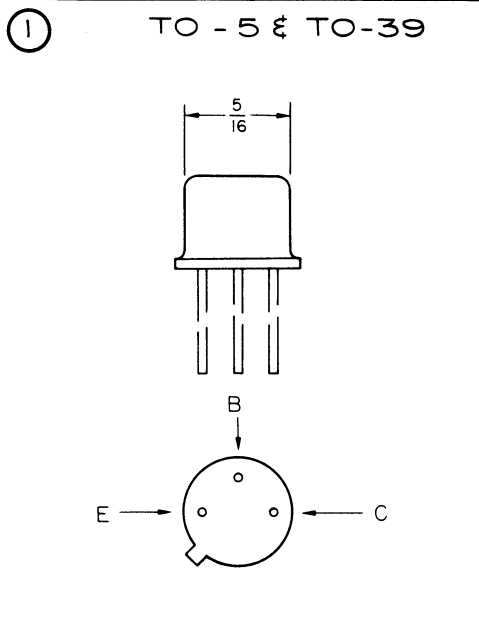
Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outline Dwg.	Material	Polarity	Vces Vds	Hfe Yfs MIN MAX	Ic Vgs MA	Idss MA	Pd @ 25°C MW	Remarks
132150	CUR		MPS-D55	150	ORN	49A	Si	PNP	25	50	50		350	Motorola
132151	CUR			151	BLU	11	Si	PNP	100	50	750		100W	Motorola
132152	CUR			152	VIO/RED	11	Si	NPN	100	50	750		100W	Motorola
132153	CUR		2N5320	153	BRN	1	Si	NPN	90	40	100			Fairchild
132154	CUR		2N5322	154	RED	1	Si	PNP	90	40	100			
132155	CUR		LM114	155	RED	1	Si	NPN	30	200	50 μ A			National-Dual
132160	OBS	132094	BC414C	160	YEL	44B	Si	NPN	45	380	800	2	300	Sprague
132164	CUR			132164	BRN	11	Si	NPN	140	25	7.5A		250W	Motorola
132165	CUR			132165	RED	11	Si	PNP	140	25	7.5A		250W	Motorola
132166	CUR		D45E2			61A	Si	PNP	60	1000	10A		50	G.E.
132167	CUR		D44E2			61B	Si	NPN	60	1000	10A		50	G.E.
132168	REP		300000442			3A								Foster
132169	REP		30200271			13B								Foster
132170	CUR		MPF970			13A	Si	P				15-60	350	Motorola
132171	CUR		MPS-A05	171	RED	13C	Si	NPN	60	50	100		625	Motorola
132173	CUR		FT2955	132173	ORN	64	Si	PNP	60	80	1A		70W	Fairchild
132174	CUR		FT3055	132174	BLU	64	Si	NPN	60	80	1A		70W	Fairchild
132175	OBS	132185(a)	BC546B			44A	Si	NPN	65	110	100		500	Siemens
132176	CUR		BC560C			44A	Si	PNP	30	110	100		500	Siemens
132182	CUR		MPS-A64	182	BRN/BLU	13C	Si	PNP	30	10K	10		500	Motorola, Darlington
132183	CUR		FT317A	183		64	Si	NPN	120	40	1		30W	Fairchild
132184	CUR		FT417A	184		64	Si	PNP	120	40	1		30W	Fairchild
132185	CUR		2N6429A	185		13C	Si	NPN	60	400	1		625	Motorola-Low Noise
132186	CUR		2N5303	186	YEL	11	Si	NPN	80	80	15A		100W	Motorola-132070-Select
132187	CUR		MPSU57	187	BRN	52	Si	PNP	120	60	1		10W	Motorola-Selected
132188	CUR		MJ15003	132188		11	Si	NPN	140	25	10		250W	RCA
132189	CUR		MJ15004	132189		11	Si	PNP	140	25	10		250W	RCA

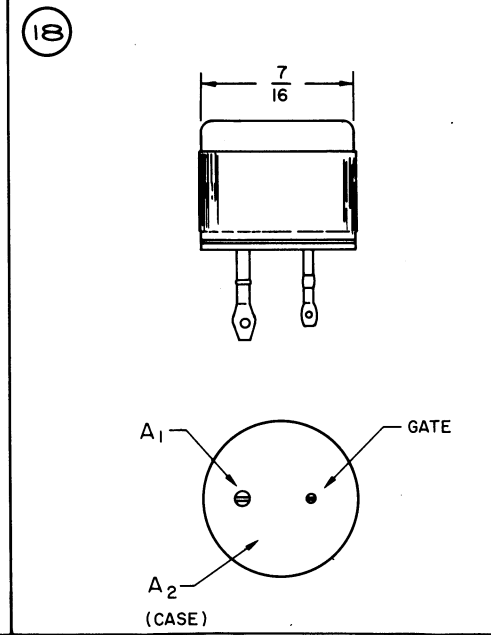
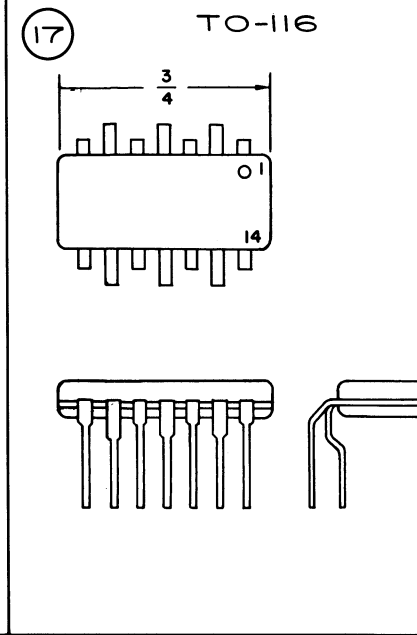
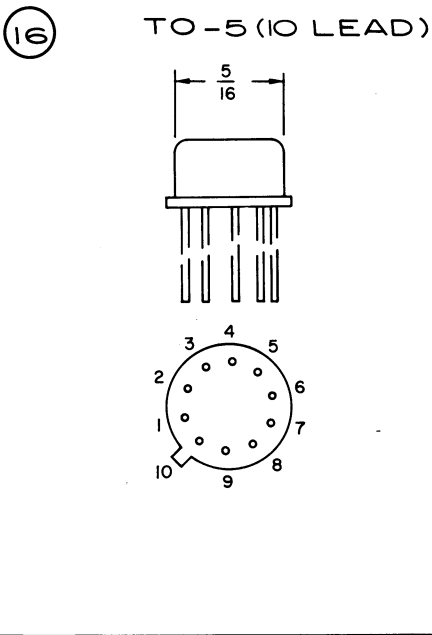
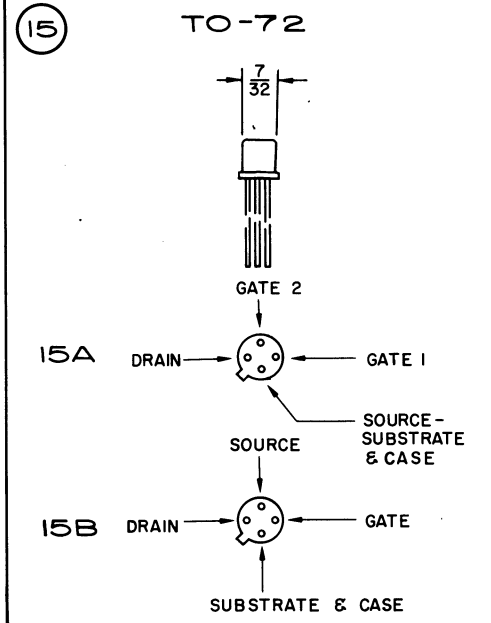
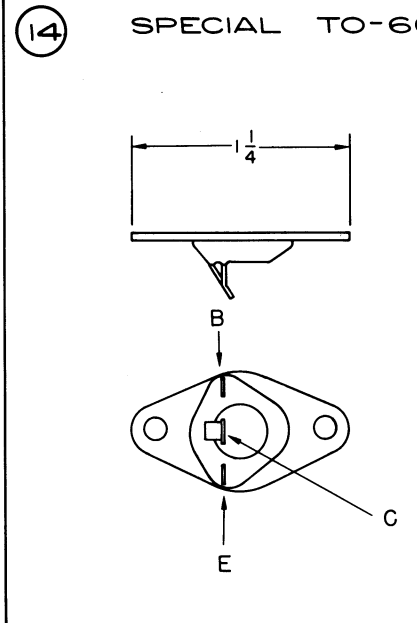
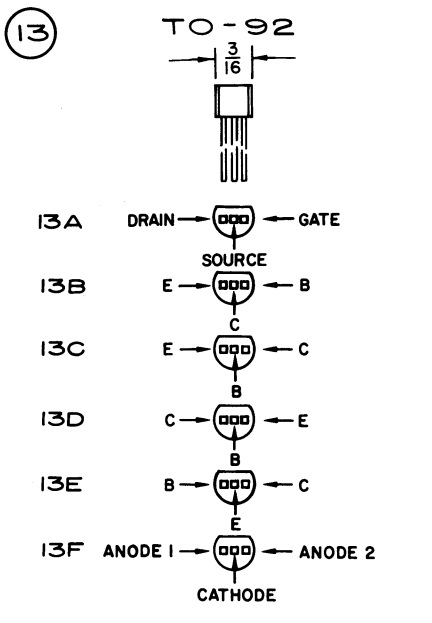
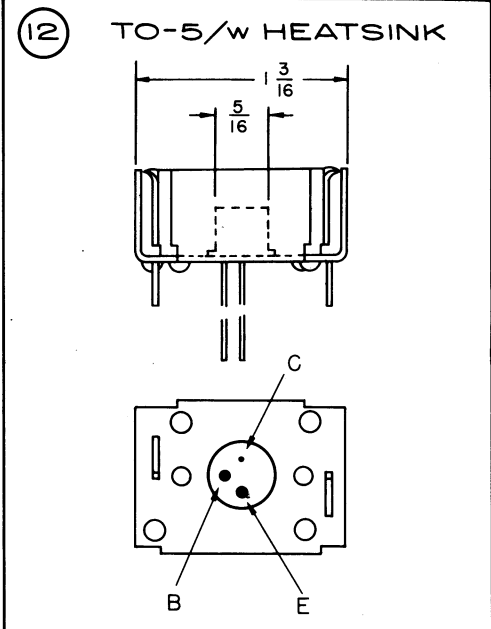
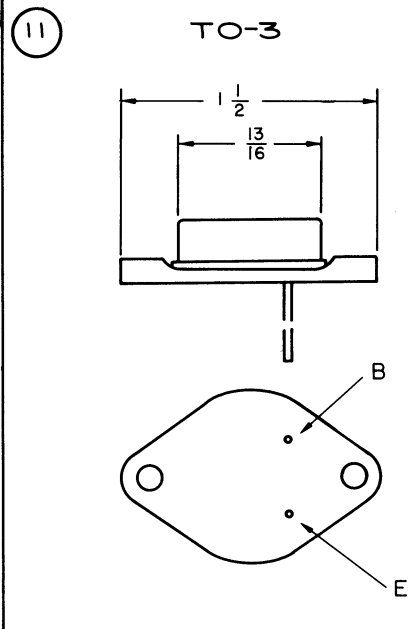
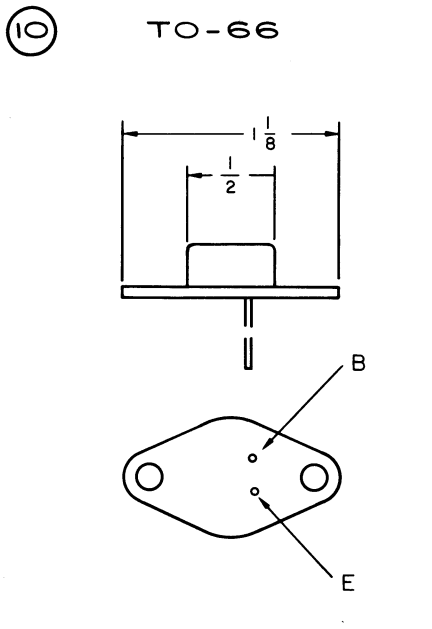
INTEGRATED CIRCUIT-REPLACEMENT-IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outl. Dwg.	Gain	Function	Remarks
133001	REP		CA3012	001		16	61 dB @ 10.7 MHz	FM-IF-AMP	RCA
133002	CUR		CA3042	002	BRN	17 or 33	67 dB @ 4.7 MHz 30 dB @ 1 kHz	FM-IF-AF Amplifier	RCA
133003	OBS	133006(a)	CA3028B	003		31	42.5 dB @ 1 kHz	FM Mixer	RCA-Natl. Sem.:LM3028
133004	CUR		MC1303	004	RED	33	60 dB @ 1 kHz	Audio-Amp	Motorola-Dual
133005	CUR		CA3053	005		31	35 dB @ 10.7 MHz	FM-IF-AMP	ROA-Natl. Sem.:LM3053
133006	CUR		LM371	006		16	27.5 dB @ 10.7 MHz	FM-Mixer	Natl. Sem
133007	CUR		MX1437P	007	VIO	33	90 dB @ 1 kHz	Dual Op Amp	Motorola
133008	CUR		MC7479P	008	SIL	33		Dual Flip-Flop	Motorola-Type D
133028	CUR		MC4558P			57	100 dB	Linear-Dual	Motorola-High Speed Op Amp
133029	CUR		CA3089E			55		FM-IF-DET.	RCA
133030	CUR		MLM309K			11	5V - 1A	Volt-Regulator	Motorola
133031	CUR		MA703C			56		FM-IF Amp	Fairchild
133034	CUR		μ A753C			57	50 dB @ 10.7 MHz	FM Gain Block	Fairchild
133036	CUR		MC1355P			33	60 dB @ 10.7 MHz	FM-IF-Amp	Motorola
133037	CUR	133068	MLM301AP1			57	84 dB	Op Amp	Motorola
133040	CUR		MPQ6100A			33		Linear	Motorola
133041	REP		MC1437P	041		33	90 dB @ 1 kHz	Linear	Motorola-Selected
133042	CUR		AM5011	042		55		Switch	Intersil 1H5011
133043	CUR		LF-356-1M						
133044	CUR		LM-320T-18	044		64	Neg. 18V	Volt. Reg.	National Semicon
133045	CUR		LM-340T-18	045		62	Pos. 18V	Volt Reg.	National Semicon
133051	CUR		1H5009			33		Switch	Intersil
133052	CUR		AH5015			55		Switch	National Semicon

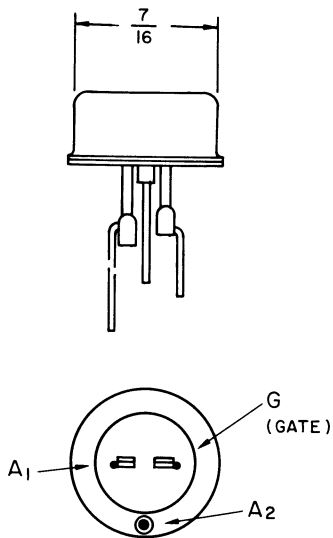
INTEGRATED CIRCUIT-REPLACEMENT-IDENTIFICATION AND TEST DATA

Part No.	Status	Substitute	Comm. Type	Marking	Color Code	Outl. Dwg.	Gain	Function	Remarks
133054	CUR		CA3140S	054		31	100 dB	Op Amp	RCA
133055	CUR		MM5837N			57		Noise Generator	National Semicon
133056	CUR		TCA4500A			55		Stereo Demod.	Motorola
132058	CUR		74LS197			33		Switch	Natl. Sem: 3 ch. JFET
132059	CUR		74LS00			33		Bin. Counter	Tex. Instr.
132060	CUR		74LS196			33		Digital	Tex. Instr.
132061	CUR		MC10116			55		Decal Counter	Tex. Instr.
133062	CUR		74LS113			33		Tripple Line Pac.	Motorola
133063	CUR		MC14011B			33		Flip Flop	Motorola-Dual J-K
133064	CUR		MC14001B			33			Motorola
133065	CUR		RM4156DB			33			Raytheon
133066	CUR		NE5534A			57		Op Amp	Signetics
133067	CUR		NE5534			57		Op Amp	Signetics
133068	CUR		LM201A			57		Op Amp	Signetics
133069	CUR		ULN2031A			57		7 Darlington	Sprague - Array
133070	CUR		LM379S			69		Dual Power Amp	Nat'l Sem.
133071	CUR		μ A759UIC			54		Power Op Amp	Fairchild



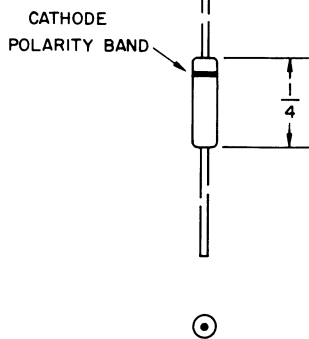


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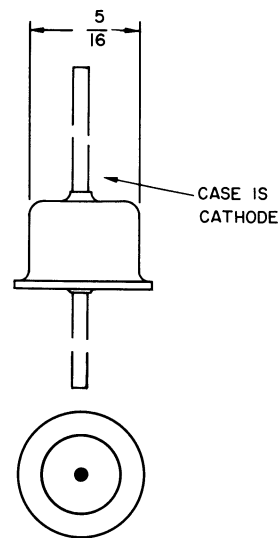
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DO-7 (GLASS)



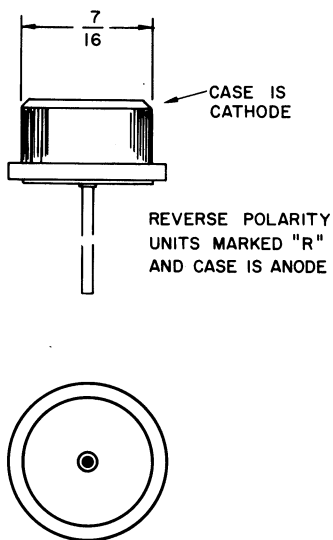
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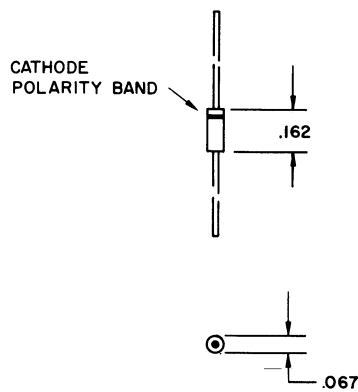
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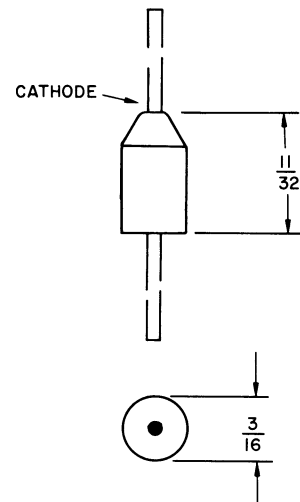


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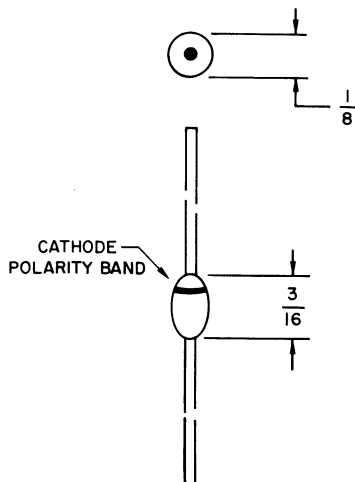
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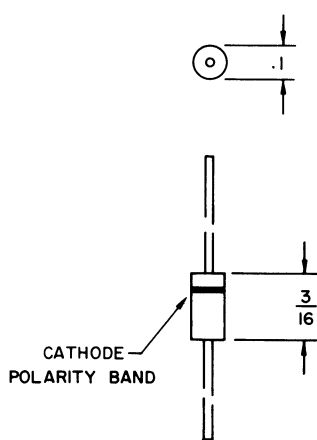


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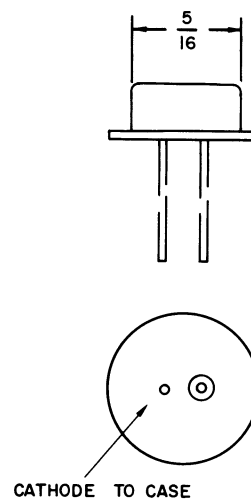


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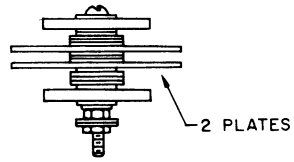
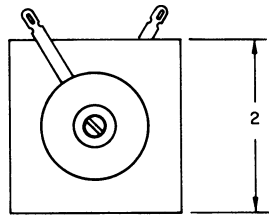
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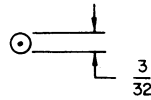
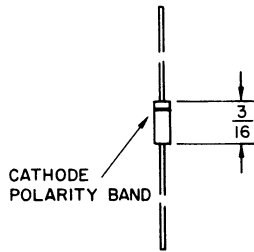
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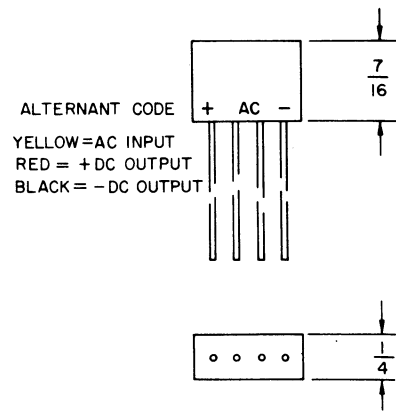
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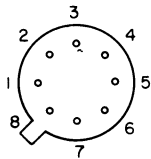
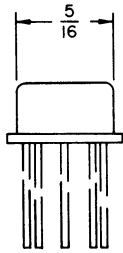


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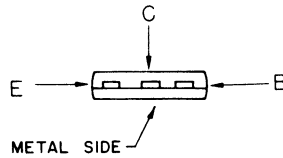
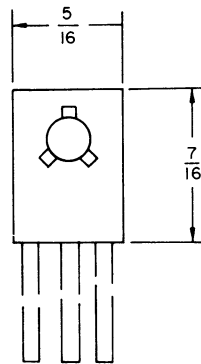


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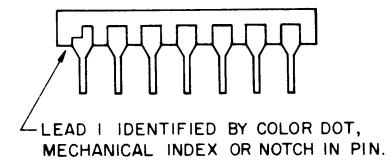
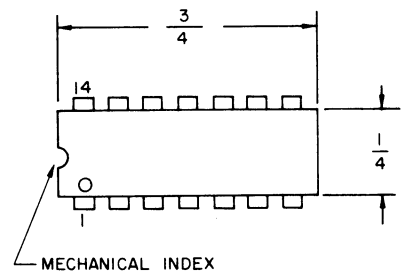
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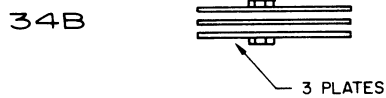
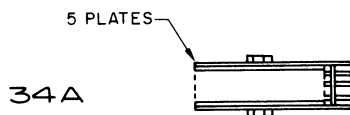
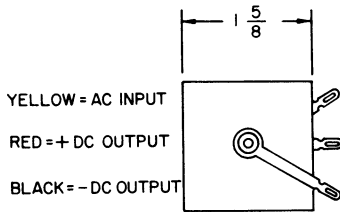
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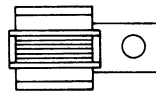
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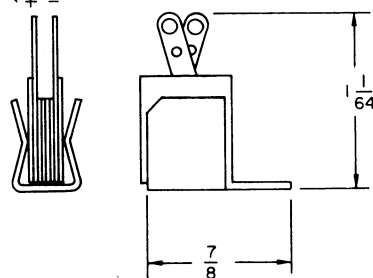
34



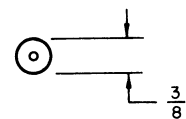
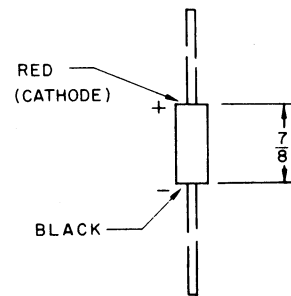
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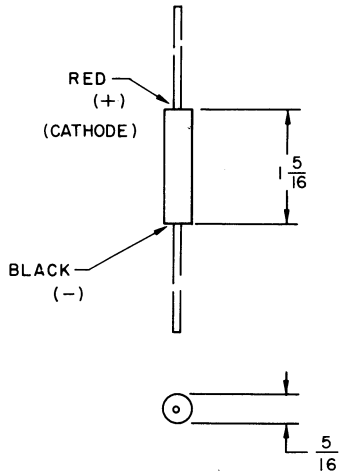
RED IS CATHODE



36

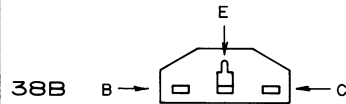
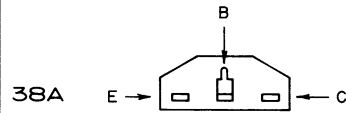
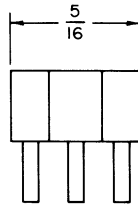


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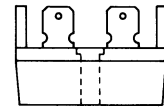
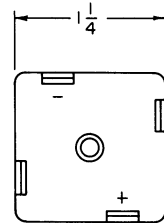


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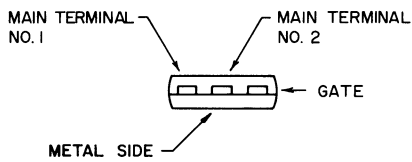
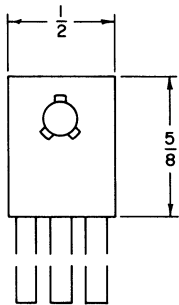
SOT-25



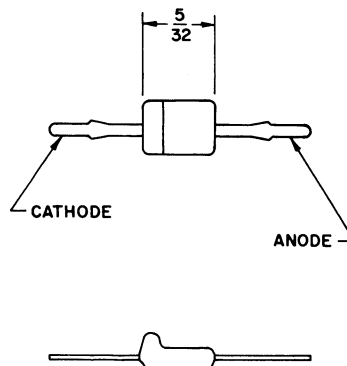
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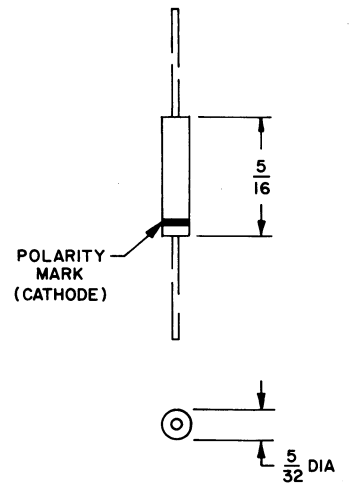
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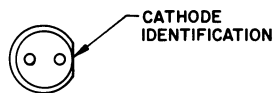
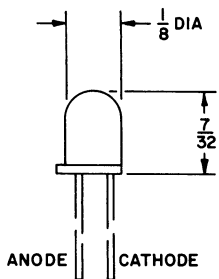
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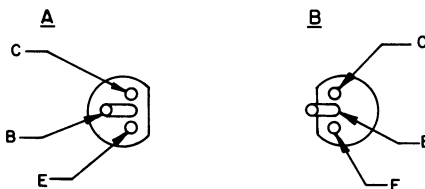
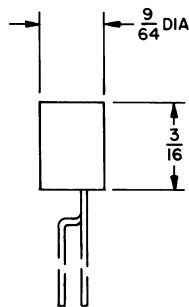
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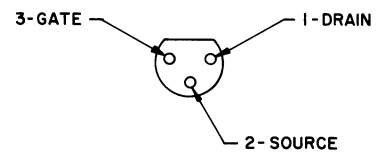
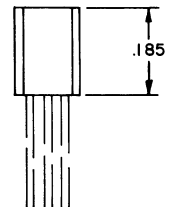
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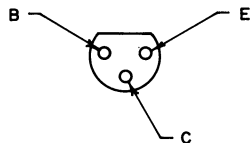
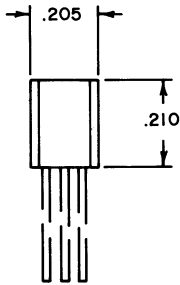
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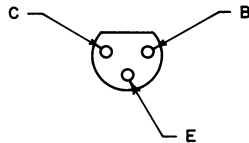
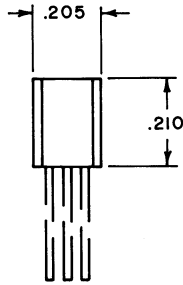
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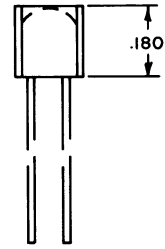
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47



48

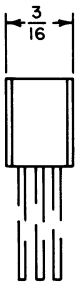


48A 1. ANODE
2. CATHODE

48C 1. MAIN TERM. 1
2. MAIN TERM. 2

48B 1. CATHODE
2. ANODE

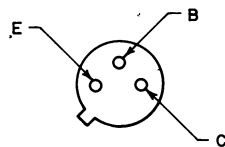
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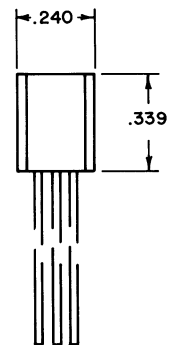
- A 1. EMITTER
2. BASE
3. COLLECTOR
- B 1. BASE
2. EMITTER
3. COLLECTOR
- C 1. ANODE
2. ANODE
3. CATHODE
- D 1. CATHODE
2. CATHODE
3. ANODE
- E 1. DRAIN
2. SOURCE
3. GATE
- F 1. GATE
2. SOURCE & SUBSTRATE
3. DRAIN
- G 1. SOURCE
2. DRAIN
3. GATE
- H 1. DRAIN
2. GATE
3. SOURCE & SUBSTRATE

- I 1. BASE 1
2. EMITTER
3. BASE 2
- J 1. CATHODE
2. GATE
3. ANODE
- K 1. ANODE
2. CATHODE & ANODE
3. CATHODE
- L 1. ANODE 1
2. GATE
3. ANODE 2
- M 1. ANODE 1
2. GATE
3. CATHODE 2
- N 1. EMITTER
2. COLLECTOR
3. BASE
- O 1. ANODE 1
2. CATHODE
3. ANODE 2
- P 1. ANODE
2. GATE
3. CATHODE
- Q 1. COLLECTOR
2. BASE
3. EMITTER

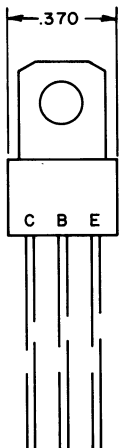
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51

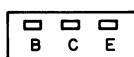
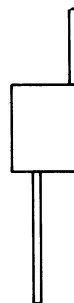
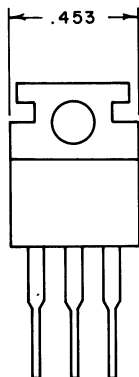


52

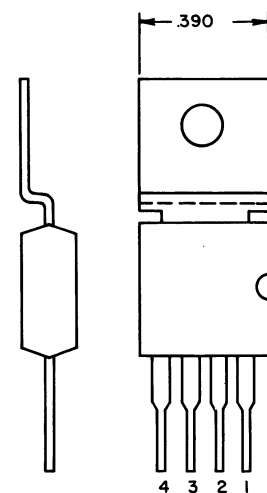


53

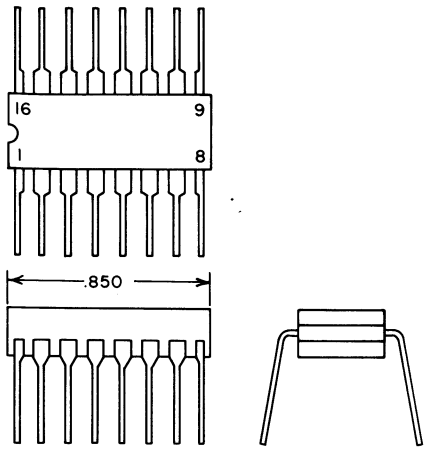
TO-220



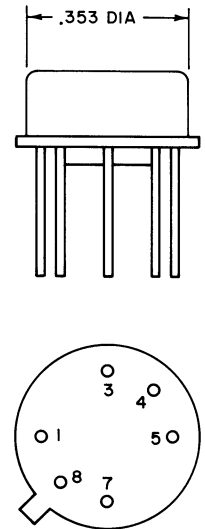
54



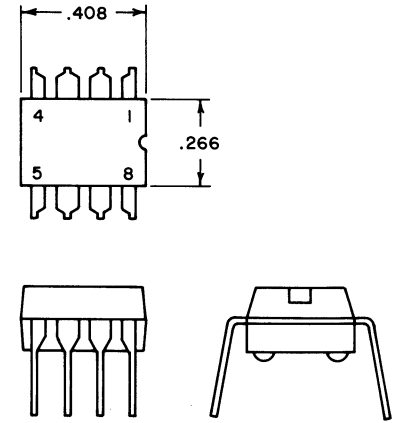
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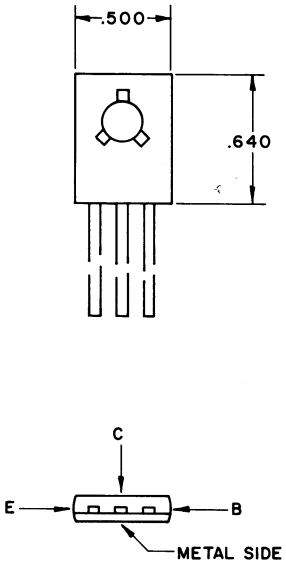
56



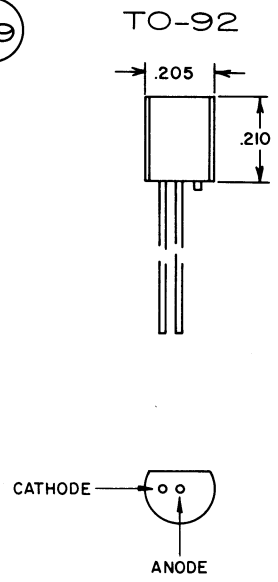
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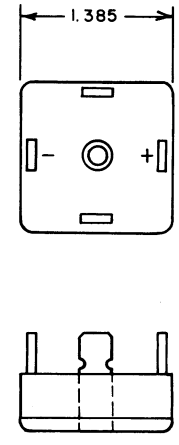
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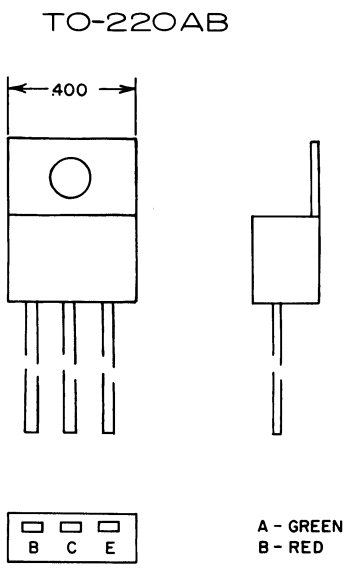
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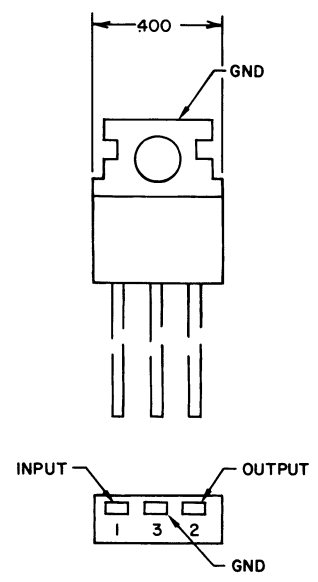
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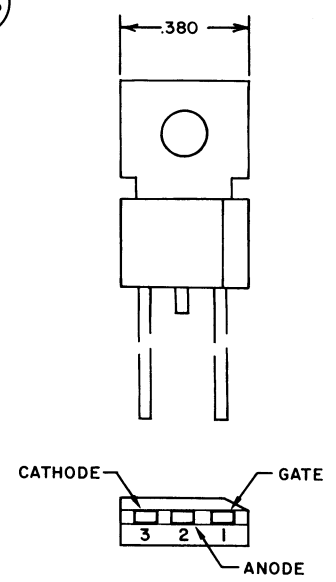
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62

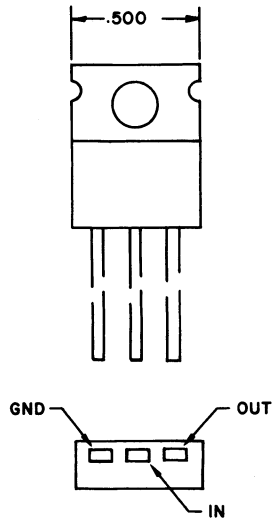


63

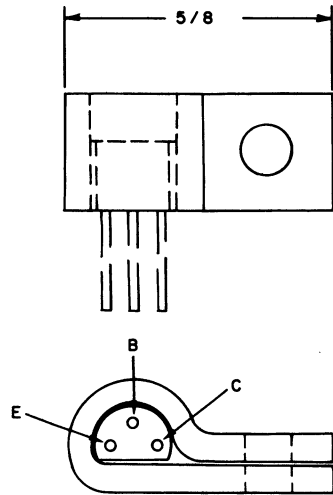


64

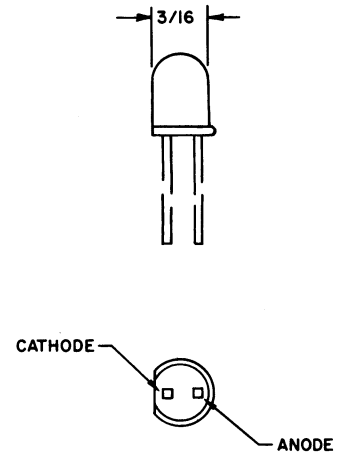
TO-220 (T)



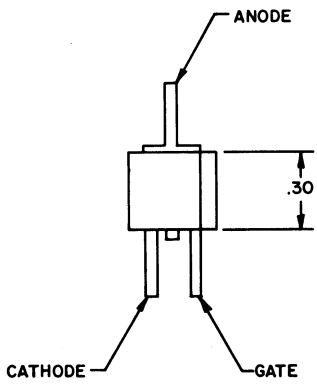
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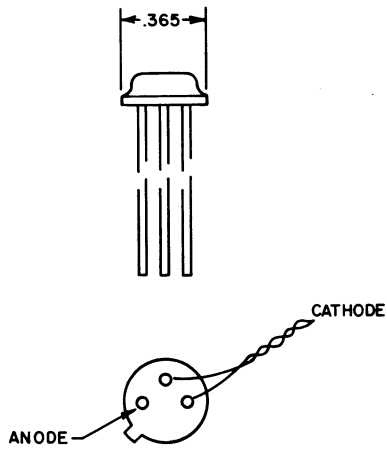
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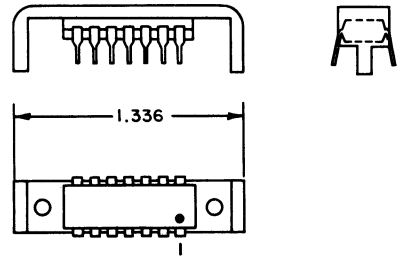
67



68



69



70

71

72

