



ELECTRONICS, INC.

BI-POLAR TRANSISTORS

Cat. No.	Material	Application	Case Style	Maximum Breakdown Voltage (Volts)		Maximum Collector Current (Amps) I _c	Maximum Collector Dissipation (Watts) P _d	Typical Forward Current Gain h _{FE}	Typical Frequency (MHz) f _r	Net Price
				BV _{CEO}	BV _{CBO}					
NPN										
NTE16	Si	Gen. Purpose Small Signal Amp, Low Noise	ATR	50	40	0.1	0.3	270 Min	180	\$1.32
NTE382	Si	Audio Freq Driver	R245	120	100	1	0.9	200	140	3.14
♠ NTE2408**	Si	Low Noise, Driver, Output	SOT-23	80	65	0.1	0.2	125 Min	300	2.47
♠ NTE2426**	Si	Darlington Sw	SOT-89	90	80(CER)	0.5	1	2000 Min	—	2.66
NTE101	Ge	OSC, Mixer for AM Radio, Medium Speed Sw	TO5	25	20(CER)	0.3	0.15	40@455kHz	5	6.80
NTE243	Si	Darlington Power Amp	TO3	80	80	8	150	2500	—	7.93
NTE247	Si	Darlington Power Amp	TO3	100	100	12	150	3000	—	8.32
NTE251	Si	Darlington Power Amp	TO3	100	100	20	160	2500	—	14.16
NTE130	Si	Power Amp, Gen Purpose	TO3	100	70(CER)	15	115	20 Min	2.5 Min	3.81
NTE180	Si	High Power Audio Amp	TO3	100	100(CER)	30	200	25 Min	2 Min	11.21
NTE280	Si	Audio Power Amp	TO3	150	150	12	100	70	5/6	8.33
NTE284	Si	Audio Amp Output	TO3	180	180	16	150	70	6	18.65
NTE87	Si	High Power AF, Switch	TO3	250	250(CEX)	10	200	20 Min	—	12.17
NTE94	Si	High Voltage Switch	TO3	300	300	5	100	40	2.5 Min	12.53
NTE388	So	Power Amp, Gen Purpose	TO3	400	250	16	250	30/35	4 Min	15.13
NTE162	Si	TV Vert Deflection	TO3	500	300	10 Peak	100	20 Min	—	12.53
NTE385	Si	Audio Power Amp, Switch	TO3	550	350	10	150	17	—	16.05
NTE98	Si	HV Darlington Pwr Amp, Fast Sw	TO3	700	500	20	175	40 Min	—	33.12
NTE283	Si	Horiz Output, Switch	TO3	800	325	10	100	10 Min	6	14.86
NTE386	Si	Audio Power Amp, Switch	TO3	800	500	20	175	20	—	37.21
NTE53	Si	High Vltg, High Speed, Sw	TO3	850	400	15	175	25	6 Min	17.00
NTE2319	Si	High Vltg, High Speed, Sw	TO3	850(CES)	450	15 Cont	175	5 Min	—	12.51
NTE89	Si	Horiz Output w/ Internal Damper Diode	TO3	1500	600	7	50	8 Min	—	14.83
NTE165	Si	TV Horizontal Output	TO3	1500	1400(CES)	6	50	8 Min	3	10.00
NTE238	Si	TV Horizontal Output	TO3	1500	1500(CEX)	8	100	8	—	10.96
♠ NTE2308	Si	High Voltage/Current Switch	TO3P	500	400	12	100*	15 Min	20	9.30
♠ NTE2302	Si	High Voltage Output w/Internal Damper Diode	TO3P	1500	800	5	120*	8 Min	3	9.30
NTE36	Si	Audio Power Amp	TO3P	160	140	12	100	100	15	8.82
♠ NTE2324	Si	High Speed Switch	TO3PML	1500	800	8	70*	8 Min	—	13.83
NTE2331	Si	TV Horiz Deflection w/ Damper Diode	TO3PML	1500	800	6	60	8 Min	—	11.16
NTE123A	Si	General Purpose Amp	TO18	75/60	40/60	0.8/0.6	0.4	200/100 Min	300/200 Min	1.45
NTE311	Si	Driver, VHF/UHF Osc	TO39	55	30	0.4	5	25 Min	800 Min	4.58
NTE123	Si	Amp, Gen Purpose	TO39	75	40	0.8	0.8	200	300 Min	1.19
NTE128	Si	Amp, Gen Purpose	TO39	120/90	80	1	1	90 Min	100/150 Min	2.15
NTE396	Si	Power Amp & High Speed Sw	TO39	450/350	350/300	1	10*1	40 Min/30 Min	15 Min	3.79
NTE175	Si	Linear & Audio Power Amp	TO66	500	500(CER)	3	40	60	15	5.81
NTE161	Si	VHF/UHF Amp, Mixer/OSC	TO72	45	45(CES)	0.05	0.2	60	800	3.21
NTE107	Si	UHF OSC for Tuner, High Freq	TO92	30	12	0.05	0.2	75	1000	2.34
NTE108	Si	RF-IF Amp and OSC	TO92	30	15	0.05	0.625	20 Min	800	2.07
NTE289	Si	Audio Power Amp/Sw	TO92	35	30	0.8	0.6	120 Min	100/140	2.66
NTE11	Si	High Current Amp	TO02	40/27	20/18	5	0.75	230 Min/180 Min	150/120	2.25
NTE172A	Si	Darlington Pre-Amp	TO92	40	40	0.3	0.4	7000 Min	60 Min	.99
NTE47	Si	High Gain, Low Noise Amp	TO92	45	45	0.2	0.625	1150	160	1.22
NTE199	Si	Amp, Gen Purpose	TO92	70/120	50/120	0.1	0.36/0.3	400 Min/350 Min	90 Min/100	1.05
♠ NTE85	Si	Amp, Gen Purp Switch	TO92	70	70(CES)	0.4	0.625	120 Min	200 Min	1.29
♠ NTE123AP	Si	Amp, Gen Purpose	TO92	75/80	40/80	0.6/1	0.625	200/180	300 Min/200	1.19

* T_c = +25°C

** Denotes Surface Mount Types

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				BV _{CBO}	BV _{CEO}					
NTE46	Si	Darlington, Gen Purp Amp, Preamp, Driver	TO92	100	100	0.5	0.625	10000 Min	200	\$2.32
NTE289A	Si	Audio Power Amp	TO92	100	80	0.5	0.6	100 Min	120	1.87
NTE194	Si	Audio Power Amp	TO92	180	160	0.6	0.31	100	100 Min	.92
NTE287	Si	High Vltg, Gen Purp Amp	TO92	300	300	0.5	0.625	40 Min	50 Min	1.32
NTE48	Si	Darlington, High Current, Gen Purp Amp	Giant TO92	60	50(CES)	1	2.5*	25000 Min	100 Min	1.85
NTE293	Si	Audio Amp & Driver	Giant TO92	60	50	1	1	120 Min	200	2.47
NTE297	Si	Audio Amp Driver	Giant TO92	80	80	0.5	0.75	130 Min	120	6.48
NTE399	Si	High Vltg Video Amp	Giant TO92	300	300	0.1	0.9	100 Min	50 Min	3.92
NTE2355	Si	Digital w/ 2 Built-In Bias 10k Resistors	TO92 Type	50	50	0.1	0.3	50 Min	250	1.67
NTE184	Si	Audio Power Amp, Sw	TO126	80	80	4	40	25 Min	2 Min	2.49
NTE373	Si	Audio Amp, Driver	TO126	180	160	1.5	20	190	140	2.61
NTE157	Si	Audio Power Amp, Converter	TO126	325	300	0.5	20	90	10 Min	2.62
NTE265	Si	Darlington Power Amp/Sw	TO202	50	50	0.5	6.25	10000 Min	—	5.93
NTE186	Si	General Purpose Output & Driver Stages of Audio Amps	TO202	70	60	3	12.5	100 Min	50	2.91
NTE171	Si	Audio, Diveo Amp	TO202	300	300	0.1	6.25	30 Min	75	2.81
NTE190	Si	High Vltg Amp	TO202N	180	180	1	10	40 Min	100	5.76
NTE152	Si	Amp, Gen Purpose	TO220N	60	60	5	50	60	10	2.77
NTE235	Si	Final RF Pwr Amp	TO220	65	65(CER)	3 Pulse	12	80	300	12.44
NTE241	Si	Amp, Gen Purpose	TO220	80	80	4	60	25 Min	2.5 Min	2.59
NTE377	Si	Pwr Amp, Pwr Driver, Switch	TO220	80	80	10	50	60 Min	50	3.87
NTE196	Si	Amp, Gen Purpose	TO220	90	80(CER)	7	50*	20 Min	4	3.79
NTE56	Si	High Gain Sw & Pass Regulator	TO220	100	80	3	30*	500 Min	15	5.14
NTE261	Si	Darlington Pwr Amp	TO220	100	100	8	65	1000 Min	—	3.94
NTE263	Si	Darlington Pwr Amp	TO220	100	100	10	65	1000 Min	—	4.16
NTE2343	Si	Darlington Audio, Amp, Dr	TO220	100	100	12	80*	1000 Min	—	2.91
NTE291	Si	Amp, Gen Purpose	TO220	130	120	4	40	70	4 Min/ 5 Min	3.14
NTE54	Si	High Freq Audio Driver	TO220	150	150	8	50	100/120	30 Min	4.61
NTE375	Si	Vert Deflection Amp	TO220	200	150	3/2	25	150/100	8/5	3.54
NTE198	Si	High Vltg Audio Output	TO220	500	500(CES)	1	40*	80	10 Min	3.96
NTE51	Si	High Vltg, High Speed Sw	TO220	700	400	4	75	30	4 Min	7.52
NTE379	Si	High Vltg Switch	TO220	700	400	12	100	12	4 Min	14.14
NTE2312	Si	HV High Speed Switch	TO220	700(CEV)	400(SUS)	8	80	60 Max	4 Min	7.46
NTE2337	Si	High Vltg, High Speed Sw	TO220 Isol Tab	900	500	7	2/45*	15 Min	20	12.51
NTE270	Si	Darlington Pwr Amp Switch	TO218	100	100	10	125	1000 Min	—	8.12
NTE390	Si	Pwr Amp, Switch	TO218	100	100	10	80	40 Min	3	6.10
NTE392	Si	Pwr Amp Switch	TO218	100	100	25	125	25 min	3	8.65
NTE2311	Si	High Vltg/Speed Sw	TO218	1000	450	15	150	10	—	20.22
NTE128P	Si	General Purpose Amp	TO237	100	80	1	1/2	100 Min	150/125	1.75

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				BV _{CBO}	BV _{CEO}					
NPN										
NTE2328	Si	Audio Pwr Output	—	200	200	15	150	55 Min	30/25	\$11.36
PNP										
NTE383	Si	Audio Freq Driver	R245	120	100	1	0.9	200	140	2.47
NTE102A	Ge	Medium Power Amp	TO1	32	32(CES)	1	0.65	120	—	2.81
NTE102	Ge	power Output, Dr, Sw	TO5	25	24(CES)	0.15	0.15	90	—	6.43
NTE219	Si	Power Amp, Gen Purpose	TO3	100	70(CER)	15	115	20 Min	2.5 Min	6.53
NTE181	Si	High Power Audio Amp	TO3	100	100(CER)	30	200	25 Min	2 Min	9.49
NTE285	Si	Audio Amp Output	TO3	180	180	16	150	70	6	22.75
NTE37	Si	Audio Power Amp	TO3P	160	140	12	100	100	15	8.78
NTE159M	Si	General Purpose Amp	TO18	75/60	40/60	0.8/0.6	0.45	200/ 100 Min	300/ 200 Min	1.42
NTE129	Si	Amp, Gen Purpose	TO39	120/90	80	1	1	90 Min	100 Min/ 150 Min	3.04
NTE160	Ge	RF-IF Amp, FM Mixer/OSC	TO72	30	20(CES)	0.01	0.1	50	550	5.28
NTE232	Si	Gen Purp Darlington Amp	TO92	30	30	0.3	0.625	50000 Min	175	1.50
NTE290	Si	Audio Power Amp/Sw	TO92	35	30	0.8	0.6	120 Min	100/140	2.47

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Cat. No.	Material	Application	Case Style	Maximum Breakdown Voltage (Volts)		Maximum Collector Current (Amps) I_c	Maximum Collector Dissipation (Watts) P_D	Typical Forward Current Gain h_{FE}	Typical Frequency (MHz) f_r	Net Price
				BV _{CBO}	BV _{CEO}					
NTE159	Si	Amp, Gen Purpose	TO92	75/80	40/80	0.6/1	0.625	200/180	300 Min/200	1.45
NTE290A	Si	Audio Power Amp	TO92	100	80	0.5	0.6	100 Min	120	2.14
NTE288	Si	High Vltg, Gen Purp Amp	TO92	300	300	0.5	0.625	40 Min	50 Min	1.25
NTE294	Si	Audio Amp & Driver	Giant TO92	60	50	1	1	120 Min	200	2.47
NTE298	Si	Audio Amp Driver	Giant TO92	80	80	0.5	0.75	130 Min	120	4.99
NTE185	Si	Audio Power Amp, Sw	TO126	80	80	4	40	25 Min	2 Min	2.92
NTE254	Si	Darlington Power Amp	TO126	80	80	4	40	2500	—	3.36
NTE374	Si	Audio Amp, Driver	TO126	180	160	1.5	20	190	140	2.67
NTE189	Si	High Vltg Amp	TO202N	80	80	2	10	60 Min	100	12.53
NTE153	Si	Amp, Gen purpose	TO220	60	60	5	50	60	10	3.11
NTE378	Si	Pwr Amp, Pwr Driver, Switch	TO220	80	80	10	50	60 Min	50	4.23
NTE262	Si	Darlington Pwr Amp	TO220	100	100	8	65	1000 Min	—	4.02
NTE264	Si	Darlington Pwr Amp	TO220	100	100	10	65	1000 Min	—	5.09
NTE332	Si	Audio Amp, Switch	TO220	100	100	15	90	40 Min	3 Min	3.99
NTE2344	Si	Darlington Audio Amp, Dr	TO220	100	100	12	80*	1000 Min	—	2.91
NTE292	Si	Amp, Gen Purpose	TO220	130	120	4	40	70	4 Min/5 Min	3.54
NTE55	Si	High Freq Audio Driver	TO220	150	150	8	50	100/120	30 Min	5.54
NTE271	Si	Darlington Pwr Amp Switch	TO218	100	100	10	125	1000 Min	—	2.87
NTE129P	Si	General Purpose Amp	TO237	100	80	1	1/2	100 Min	150/125	2.09
NTE2329	Si	Audio Pwr Output	—	200	200	15	150	55 Min	30/25	9.97

* T_c = +25°C

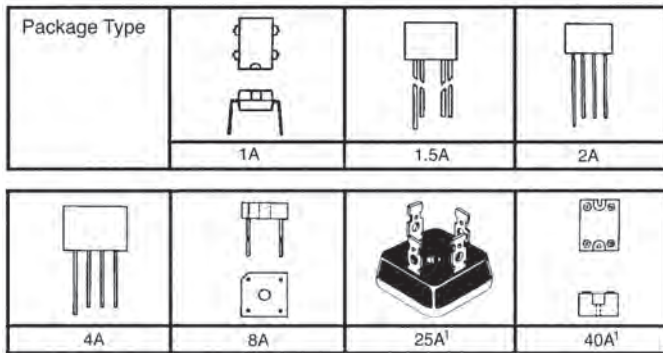
** Denotes Surface Mount Types

FIELD EFFECT TRANSISTORS

Cat. No.	Polarity and Material	Description and Application	Case Style	Voltage Gate to Source Min (Volts) BV _{GSS}	Cutoff Voltage Gate to Source Max (OFF) (Volts) V _{GS}	Drain Current Zero-Gate Min-Max (mA) I _{DSS}	Drain Current Max (OFF) (mA) I _D	Res Drain to Source Max (ON) (Ohms) r _{DSS}	Cap Input Max (pf) C _{ISS}	Rev Trans Cap Max (pf) C _{RES}	Transconductance Typ (μmhos) g _{fs}	Power Dissp Max (mW) P _D	Net Price
NTE133	JFET N-CH	Gen Purp AF Amp Switch	TO106	25	6	0.5-15	—	—	6	2	4000	300	\$1.69
NTE222	Dual Gate MOSFET N-CH	VHF Amp/Mix, NF 6dB Max at 200 MHz, gate Protected	TO72	20	4	5-35	—	—	6 Typ	0.03	12000	330	17.03
NTE312	JFET N-CH	VHF Amp/Mix, NF 4dB Max at 400MHz	TO92	30	6	5-15	—	—	4.5	1	5500	360	1.99
NTE326	JFET P-CH	Gen Purp AF Amp NF 2.5dB Max at 100Hz	TO92	60	7.5	2-9	—	—	7	2	3000	310	2.47
NTE451	JFET N-CH	UHF/VHF Amp, NF 4dB at 400MHz	TO92	25	4	4-10	—	—	5	1	4000	310	2.14
NTE467	JFET N-CH	Chopper/High Speed Switching	TO92	30	12	50 Min	1.0nA	30	10	4	—	310	1.85

JUST-IN-TIME DELIVERY IS JUST ONE OF THE MANY VALUE-ADDED SERVICES ELECTRO SONIC PROVIDES.

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1-800-56-SONIC
OR EMAIL US: info@e-sonic.com
WE ARE EAGER TO HELP.**



Note 1: Provided with 4-Way terminals (Quick-connect, wrap-around, solder, or P.C. board mount)

SINGLE PHASE BRIDGE RECTIFIERS

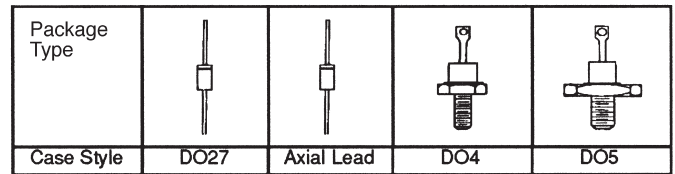
Cat. No.	I _{FSM} (Amp)	V _{F@I_F}	Max T _{A@I_F} (°C)	P _{RV}	Net Price
1A					
NTE5332	25	1.2V@1A	+40	600	\$2.40
1.5A					
NTE5304	50	1V@1A	+30	400	2.02
2A					
NTE168	60	1V@1A	+55	400	2.99
NTE169				600	3.24
NTE170				1000	5.06
4A					
NTE5309	200	1V@3A	+50	200	3.44
8A					
NTE5313	200	1.1V@4A	+55	200	5.41
NTE5315				600	6.31
25A					
NTE5322	300	1.2V@12.5A	+55	200	7.38
NTE5324				400	10.24
NTE5326				600	10.89
40A					
NTE5340	300	1.2V@20A	+55	200	12.91
NTE5342				600	16.20
NTE5344				1000	19.10

I_F Averaged Rectified Forward Current
Maximum Average Rectified Current
@ Half-wave Resistive Load 60Hz

**MOVING? CHANGING JOBS?
PLEASE LET US KNOW TO KEEP OUR RECORDS
UP TO DATE AND KEEP YOU INFORMED.**



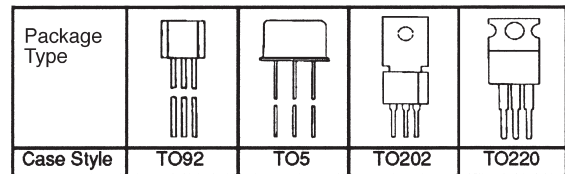
Part's indicated with a leaf  are considered RoHS July 2006 compliant based on the manufacturer's confirmation at the time of publishing. For additional information please contact Electro Sonic.



SILICON INDUSTRIAL RECTIFIERS

Cat. No.	I _{FSM}	V _{F@I_F}	Max T _{C@I_F} (°C)	Mounting Torque in • lb (m • N)	Thread Size	Case Style	P _{RV} Volts	Net Price
3A								
NTE5800	200A	1.2V Max 0.9V Typ	+105 (T _L)	—	—	DO27	50	\$5.2
NTE5801							100	.72
NTE5802							200	.85
NTE5804							400	1.20
NTE5806							600	1.45
NTE5809	1000	2.10						
6A								
NTE5812	400A	0.9V Max 0.8V Typ	+60	—	—	Axial Lead	100	1.95
NTE5814							400	2.29
NTE5815							600	3.57
NTE5817	1000	4.59						
12A								
NTE5870	250A	1.2V Max 1V Typ	+150	20 (2.22)	10-32 NF-2A	DO4	50	5.01
NTE5874							200	5.13
40A								
NTE5980	500A	1.2V Max 1V Typ	+150	30 (3.33)	1/4-28 UNF-2A	DO5	50	6.31
NTE5986							200	9.52
NTE5994							600	14.09

Maximum Average Rectified Forward Current I_F in Amperes



SILICON CONTROLLED RECTIFIERS FOR PHASE CONTROL (SCR)

Cat. No.	DC or Pk Volts V _{GRM}	I _{GT} Max*	V _{GT} Max (V)	I _{Hold} Max (mA)	V _F (on) (V)	I _{Surge} (A)	V _{GF_M} (V)	V _{GRM} (V)	Case Style	Net Price
0.8A SENSITIVE GATE										
NTE5400	30	200µA#	0.8	5	1.7	20	8	8	TO92	\$1.15
NTE5401	60									1.45
NTE5402	100									1.49
NTE5404	200									1.65
NTE5405	400									3.11
3A SENSITIVE GATE										
NTE5408	200	1mA#	1.0	10	1.2	40	6	6	TO5	7.90
4A SENSITIVE GATE										
NTE5452	30	200µA#	1.5	3	2.2	20	6	6	TO202	1.29
NTE5454	100									1.85
NTE5455	200									1.80
NTE5457	400									2.62
10A										
NTE5465	400	15mA	1.5	20	2.0	100	6	6	TO220	4.23
NTE5466	600									8.85

I_{T(RMS)} Maximum Forward Current Amps (All Conducting Angles)

Connect a 1KΩ resistor between the gate of cathode

* I_{GT} (max) is the maximum gate current required to switch a thyristor to the on state. This value is positive for P-Gate and negative for N-Gate thyristors.