ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE251 (NPN) & NTE252 (PNP)
Silicon Complementary Transistors
Darlington Power Amplifier

Description:

The NTE251 (NPN) and NTE252 (PNP) are silicon complementary Darlington transistors in a TO3 type case designed for general–purpose amplifier and low–frequency switching applications.

Features:

- High DC Current Gain @ I_C = 10A:
  h_{FE} = 2400 Typ (NTE251)
  h_{FE} = 4000 Typ (NTE252)
- Collector–Emitter Sustaining Voltage: $V_{CEO(sus)}$ = 100V Min
- Monolithic Construction with Built–In Base–Emitter Shunt Resistors

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector–Emitter Voltage, V_{CEO} 100V

Collector–Base Voltage, V_{CB} 100V

Emitter–Base Voltage, V_{EB} 5V

Collector Current, I_C
- Continuous 20A
- Peak 40A

Base Current, I_B 500mA

Total Power Dissipation (T_C = +25°C), P_D 160W
- Derate Above 25°C . . . . . 0.915W/°C

Operating Junction Temperature Range, T_J . . . . . –65° to +200°C

Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

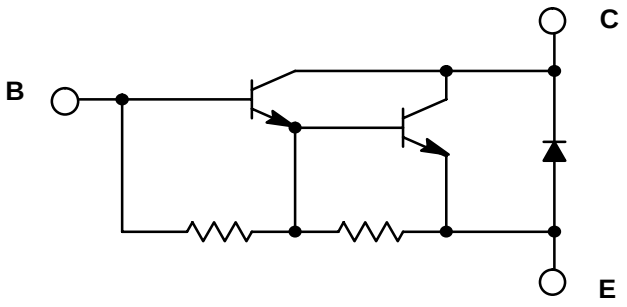
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.09°C/W

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

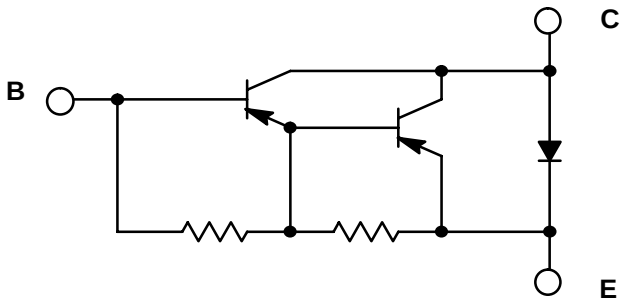
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter SustainingVoltage	$V_{CEO(sus)}$	I_C = 100mA, I_B = 0	100	–	–	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 50V, I_E = 0	–	–	1.0	mA
	I_{CEX}	V_{CE} = 100V, $V_{BE(off)}$ = 1.5V	–	–	0.5	mA
		V_{CE} = 100V, $V_{BE(off)}$ = 1.5V, T_A = +150°C	–	–	5.0	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 5V, I_C = 0	–	–	2.0	mA
ON Characteristics (Note 1)						
DC Current Gain	h_{FE}	V_{CE} = 3V, I_C = 10A	750	–	18000	
		V_{CE} = 3V, I_C = 20A	100	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10A, I_B = 40mA	–	–	2.0	V
		I_C = 20A, I_B = 200mA	–	–	3.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 20A, I_B = 200mA	–	–	4.0	V
Base–Emitter ON Voltage	$V_{BE(on)}$	V_{CE} = 3V, I_C = 10A	–	–	2.8	V
Dynamic Characteristics						
Small–Signal Current Gain	h_{fe}	V_{CE} = 3V, I_C = 10A, f = 1kHz	300	–	–	
Magnitude of Common Emitter Small–Signal Short–Circuit Forward Current Transfer Ratio	$\|h_{fe}\|$	V_{CE} = 3V, I_C = 10A, f = 1MHz	4.0	–	–	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 0.1MHz				pF
NTE251			–	–	400	
NTE252			–	–	600	

Note 1. Pulse Test: Pulse Width = 300μs, Duty Cycle = 2%

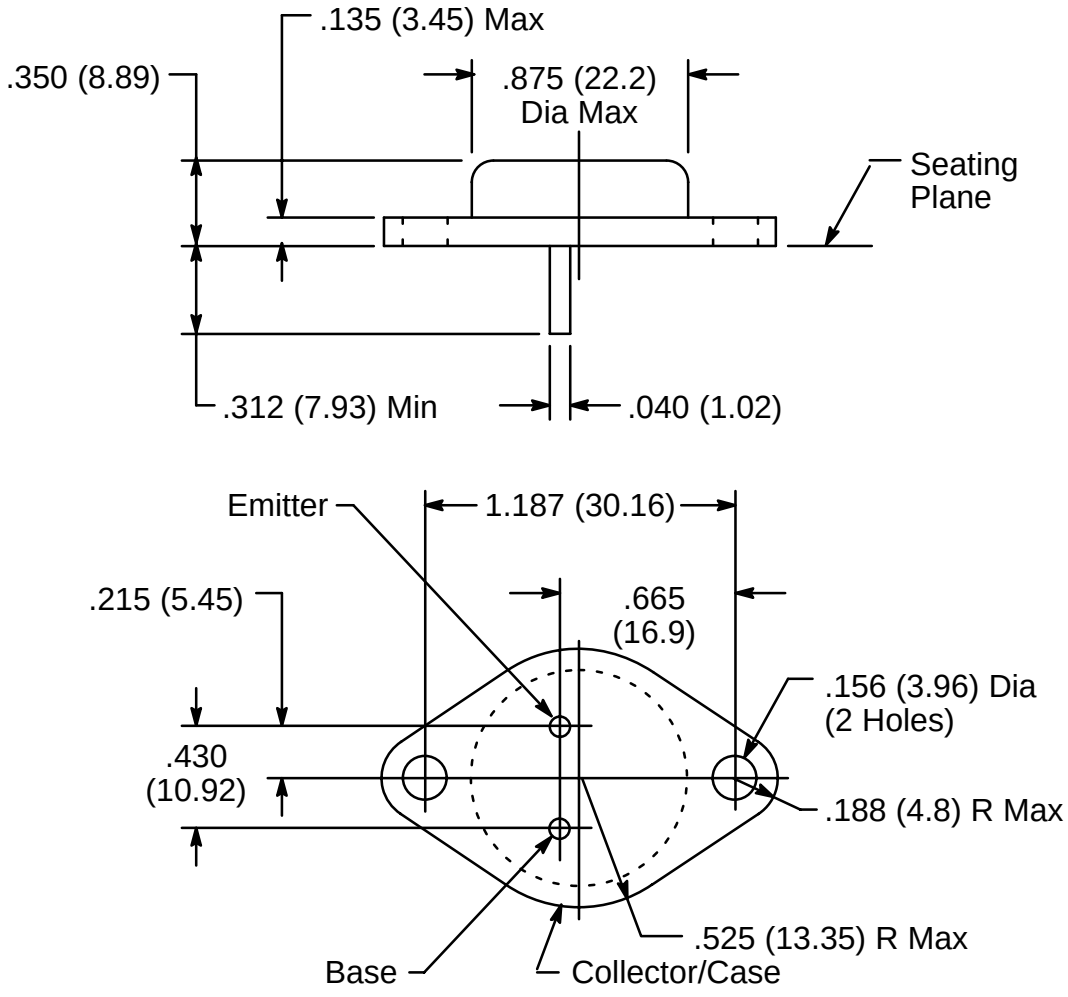
Schematic Diagram



NPN



PNP


.135 (3.45) Max
.350 (8.89)
.875 (22.2)
Dia Max
Seating
Plane
.312 (7.93) Min
.040 (1.02)
Emitter
1.187 (30.16)
.215 (5.45)
.665
(16.9)
.156 (3.96) Dia
(2 Holes)
.430
(10.92)
.188 (4.8) R Max
.525 (13.35) R Max
Base
Collector/Case

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Darlington Transistors ***category:***

Click to view products by NTE ***manufacturer:***

Other Similar products are found below :

281287X SMMBT6427LT1G 2N7371 BDV64B JANTXV2N6287 028710A SMMBTA64LT1G 2N6350 2SB1214-TL-E SMMBTA14LT1G SBSP52T1G NJVMJD117T4G Jantx2N6058 2N6353 LB1205-L-E 500-00005 2N6053 NJVMJD112G Jan2N6350 Jantx2N6352 Jantx2N6350 BULN2803LVS ULN2001N 2SB1383 2SB1560 2SB852KT146B TIP112TU TIP122TU BCV27 MMBTA13-TP MMBTA14-TP MMSTA28T146 BSP50H6327XTSA1 KSH122TF NTE2557 NJVNJD35N04T4G TIP115 MPSA29-D26Z MJD127T4 FJB102TM BCV26E6327HTSA1 BCV46E6327HTSA1 BCV47E6327HTSA1 BSP61H6327XTSA1 BU941ZPFI 2SB1316TL 2SD1980TL NTE2350 NTE245 NTE246