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

NTE274 (NPN) & NTE275 (PNP)
Silicon Complementary Transistors
Darlington Power Amplifier, Switch

Description:

The NTE274 (NPN) and NTE275 (PNP) are silicon complementary Darlington transistors in a TO66 type case designed for general purpose amplifier, low–frequency switching and hammer driver applications.

Features:

- High DC Current Gain: h_{FE} = 3000 Typ @ I_C = 2A
- Low Collector–Emitter Saturation Voltage: $V_{CE(sat)}$ = 2V Max @ I_C = 2A
- Collector–Emitter Sustaining Voltage: $V_{CEO(sus)}$ = 80V Min
- Monolithic Construction with Built–In Base–Emitter Shunt Resistors

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 80V
Collector–Base Voltage, V_{CB} 80V
Emitter–Base Voltage, V_{EB} 5V
Collector Current, I_C
  Continuous 4A
  Peak 8A
Base Current, I_B 80mA
Total Power Dissipation (T_C = +25°C), P_D 50W
  Derate Above 25°C . . . . . 0.286W/°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} . . . . . 3.5°C/W

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

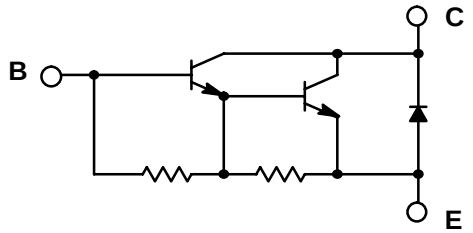
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 50mA, I_B = 0	80	–	–	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 40V, I_B = 0	–	–	0.5	mA
	I_{CER}	V_{CE} = 80V, $V_{EB(off)}$ = 1.5V	–	–	0.5	mA
		V_{CB} = 80V, $V_{EB(off)}$ = 1.5V, T_A = +150°C	–	–	5.0	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 5V, I_C = 0	–	–	2.0	mA

Downloaded from Elcodis.com electronic components distributor

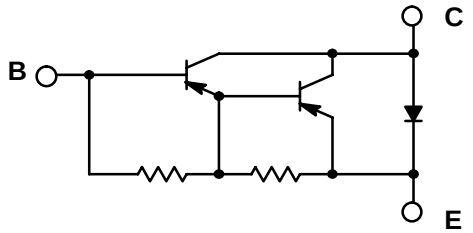
Electrical Characteristics (Cont'd): (T_C = +25°C unless otherwise specified)

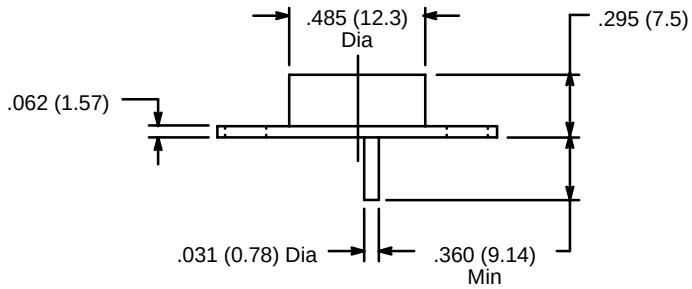
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
ON Characteristics						
DC Current Gain	h_{FE}	V_{CE} = 3V, I_C = 2A	750	–	18000	
		V_{CE} = 3V, I_C = 4A	100	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 2A, I_B = 8mA	–	–	2.0	V
		I_C = 4A, I_B = 40mA	–	–	3.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 4A, I_B = 40mA	–	–	4.0	V
Base–Emitter ON Voltage	$V_{BE(on)}$	V_{CE} = 3V, I_C = 2A	–	–	2.8	V
Dynamic Characteristics						
Magnitude of Common Emitter Small–Signal Short–Circuit Forward Current Transfer Ratio	$\|h_{fe}\|$	I_C = 1.5A, V_{CE} = 3V, f = 1MHz	4.0	–	–	
Output Capacitance NTE274	C_{ob}	V_{CB} = 10V, I_E = 0, f = 0.1MHz	–	–	120	pF
NTE275			–	–	200	pF
Small–Signal Current Gain	h_{fe}	I_C = 1.5A, V_{CE} = 3V, f = 1kHz	300	–	–	

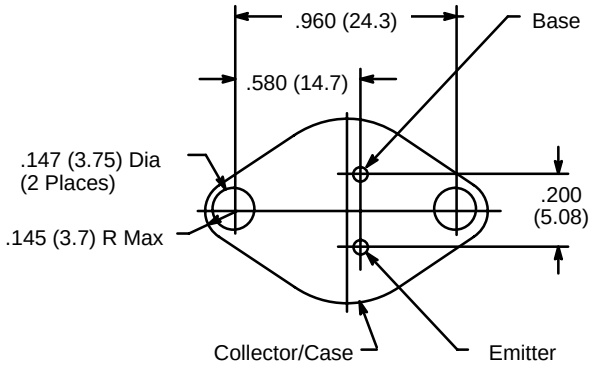
NTE274



NTE275







Downloaded from Elcodis.com electronic components distributor