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NTE225
Silicon NPN Transistor
Linear Amplifier and High Speed Switch

Description:

The NTE225 is a silicon NPN transistor in a TO39 type package (with flange) designed for industrial and commercial equipment. Typical applications include high voltage differential and operational amplifiers, high voltage inverters, and high voltage, low current switching and series regulators.

Features:

- High Voltage Rating: $V_{CEO(sus)}$ = 350V Max.
- Low Saturation Voltage

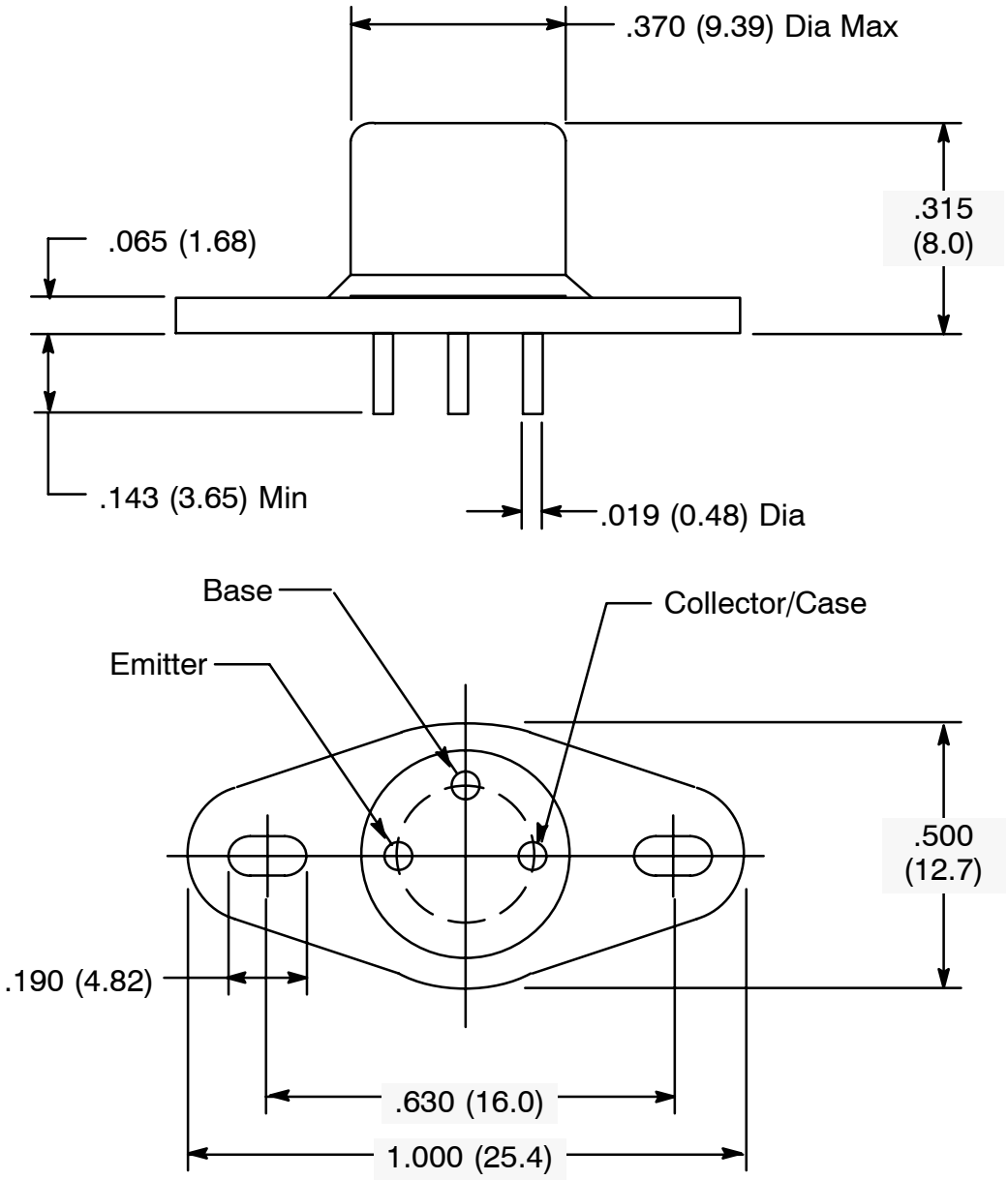
Absolute Maximum Ratings:

Collector–Base Voltage, V_{CBO} 450V
Collector–Emitter Sustaining Voltage, $V_{CEO(sus)}$ 350V
Emitter–Base Voltage, V_{EBO} 7V
Collector Current, I_C 1A
Base Current, I_B 500mA
Total Power Dissipation (T_C = +25°C), P_D 10W
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} . . . . . 17.5°C/W
Lead Temperature (During Soldering, 1/32” from seating plane for 10sec Max, T_L . . . . . +255°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 50mA, I_B = 0, Base Open, Note 1	350	–	–	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 300V, I_B = 0	–	–	20	μA
	I_{CEV}	V_{CE} = 450V, V_{BE} = –1.5V	–	–	500	μA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 6V, I_C = 0	–	–	20	μA
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 20mA	40	–	160	
		V_{CE} = 10V, I_C = 2mA	30	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 50mA, I_B = 4mA	–	–	0.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 50mA, I_B = 4mA	–	–	1.3	V
Small–Signal Current Gain	h_{fe}	V_{CE} = 10V, I_C = 10mA, f = 5MHz	3	–	–	
Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	–	–	10	pF
Second Breakdown Collector Current	$I_{S/b}$	V_{CE} = 200V, with Base Forward Biased	50	–	–	mA

Note 1. The sustaining voltage ($V_{CEO(sus)}$) ***MUST NOT*** be measured on a curve tracer.


.370 (9.39) Dia Max
.315
(8.0)
.065 (1.68)
.143 (3.65) Min
.019 (0.48) Dia
Base
Collector/Case
Emitter
.500
(12.7)
.190 (4.82)
.630 (16.0)
1.000 (25.4)