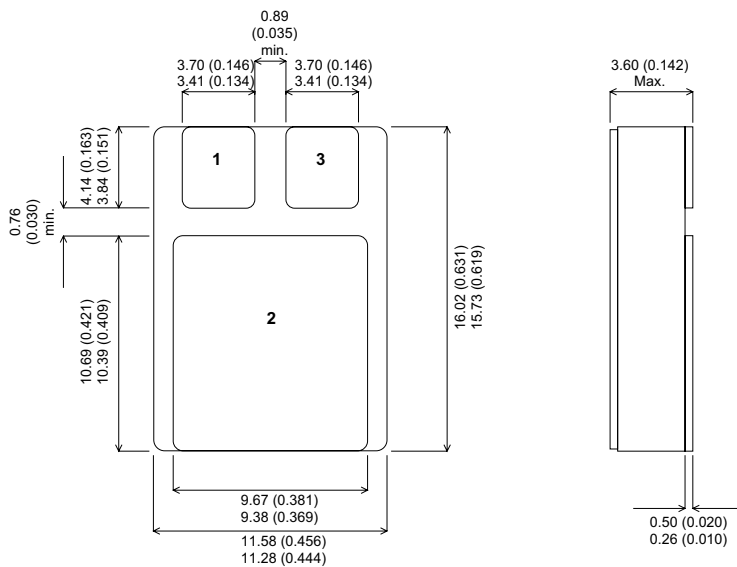


MECHANICAL DATA

Dimensions in mm (inches)

NPN BIPOLAR TRANSISTOR IN A CERAMIC SURFACE MOUNT PACKAGE FOR HIGH REL APPLICATIONS



FEATURES

- HIGH VOLTAGE
- FAST SWITCHING
- CERAMIC SURFACE MOUNT PACKAGE
- SCREENING OPTIONS AVAILABLE

SMD1

Underside View

1 = Base

2 = Collector

3 = Emitter

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage	250V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	200V
V_{EBO}	Emitter – Base Voltage ($I_B = 0$)	6V
I_B	Base Current	0.6A
I_C	Collector Current	3A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	–55 to +150°C
$R_{\theta JC}$	Thermal Resistance Junction to Case	4.16°C/W
P_D	Power Dissipation	30W

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(sus)}$ Collector – Emitter Sustaining Voltage	$I_C = 10\text{mA}$ $I_B = 0$	200			V
$V_{CER(sus)}$ Collector – Emitter Sustaining Voltage	$I_C = 10\text{mA}$ $R_{EB} = 100\Omega$	250			
I_{CES} Collector – Emitter Cut-off Current	$V_{CE} = 200\text{V}$ $I_B = 0$			1.0	μA
	$V_{CE} = 175$ $T_C = 150^\circ\text{C}$			100	
I_{EBO} Emitter Base Cut-off Current	$V_{EB} = 6\text{V}$ $I_E = 0$			10	μA
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 3.0\text{A}$ $I_B = 0.3\text{A}$			0.4	V
$V_{BE(sat)}$ Base – Emitter On Voltage	$I_C = 3.0\text{A}$ $I_B = 0.3\text{A}$			1.2	
h_{FE} DC Current Gain	$I_C = 0.5\text{mA}$ $V_{CE} = 2\text{V}$	40			—
	$I_C = 1.0\text{A}$ $V_{CE} = 5\text{V}$	40		120	
	$I_C = 3.0\text{A}$ $V_{CE} = 5\text{V}$	15			
C_{obo} Output Capacitance	$V_{CB} = 5.0\text{V}$ $f = 1\text{MHz}$			125	pF
$[h_{fe}]$ Small Signal Current Gain	$V_{CE} = 5.0\text{V}$ $I_C = 0.5\text{A}$ $f = 10\text{MHz}$	2.0			—
t_{on} Turn on time	$I_C = 1.0\text{A}$ $V_{CC} = 100\text{V}$ $I_{B1} = - I_{B2} = 30\text{mA}$			0.25	μsec
t_{off} Turn off time	$I_C = 1.0\text{A}$ $V_{CC} = 100\text{V}$ $I_{B1} = - I_{B2} = 30\text{mA}$			1.5	μA

1) f_t is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.