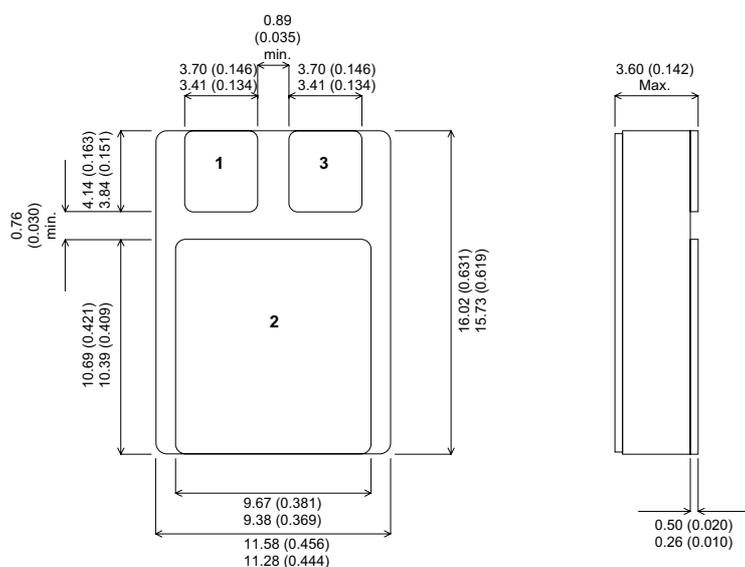


**MECHANICAL DATA**

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** ( $T_{case} = 25^{\circ}C$  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	$\mu\text{A}$
	$V_{CE} = 175$ $T_C = 150^\circ\text{C}$			100	
$I_{EBO}$ Emitter Base Cut-off Current	$V_{EB} = 6\text{V}$ $I_E = 0$			10	$\mu\text{A}$
$V_{CE(sat)}$ 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	$\mu\text{sec}$
$t_{off}$ Turn off time	$I_C = 1.0\text{A}$ $V_{CC} = 100\text{V}$ $I_{B1} = - I_{B2} = 30\text{mA}$			1.5	$\mu\text{A}$

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

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