SEME LAB

2N5664SMD

MECHANICAL DATA
Dimensions in mm (inches)

SMD1
Underside View

1 = Base   2 = Collector   3 = Emitter

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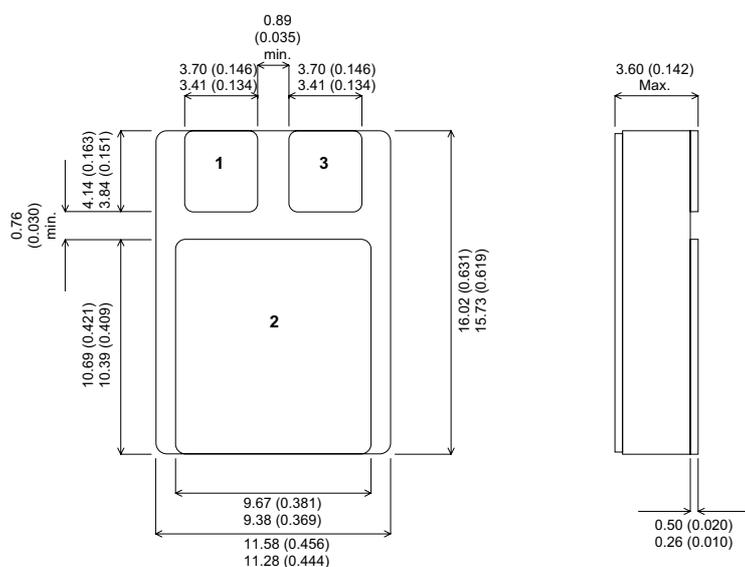
FEATURES

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

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°C unless otherwise stated)

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

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