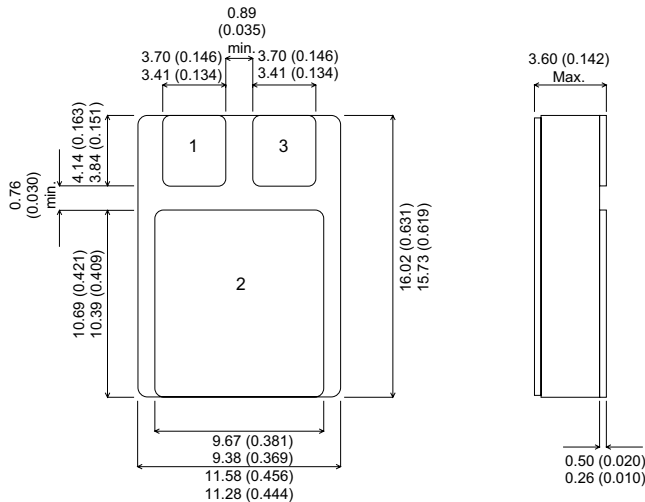
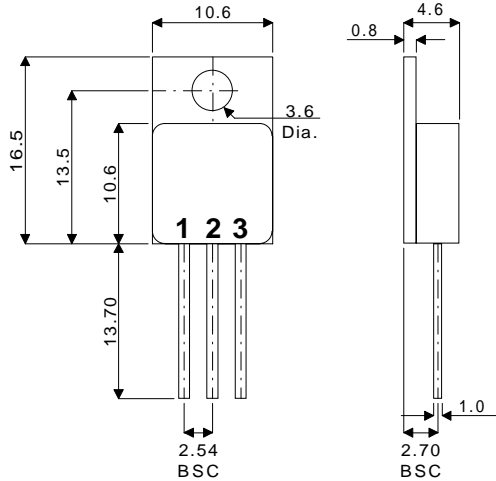


MECHANICAL DATA
Dimensions in mm

**SILICON NPN
EPITAXIAL BASE
IN TO220 METAL AND
SMD1 CERAMIC SURFACE
MOUNT PACKAGES**



FEATURES

- HERMETIC METAL OR CERAMIC PACKAGES
- HIGH RELIABILITY
- MILITARY AND SPACE OPTIONS
- SCREENING TO CECC LEVELS
- FULLY ISOLATED (METAL VERSION)

APPLICATIONS

- POWER LINEAR AND SWITCHING APPLICATIONS
- GENERAL PURPOSE POWER

TO220M - TO220 Metal Package - Isolated
SMD1 - Ceramic Surface Mount Package

Pin 1 – Base **Pin 2** – Collector **Pin 3** – Emitter

ABSOLUTE MAXIMUM RATINGS ($T_{case}=25^{\circ}C$ unless otherwise stated)

		BDS16	BDS17
V_{CBO}	Collector - Base voltage ($I_E = 0$)	120V	150V
V_{CEO}	Collector - Emitter voltage ($I_B = 0$)	120V	150V
V_{EBO}	Emitter - Base voltage ($I_C = 0$)		5V
I_E, I_C	Emitter, Collector current		8A
I_B	Base current		2A
P_{tot}	Total power dissipation at $T_{case} \leq 75^{\circ}C$		50W
T_{stg}	Storage Temperature		-65 TO 200°C
T_j	Junction Temperature		200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cut-off current ($I_E = 0$)	BDS16 BDS17	$V_{CB} = 120V$ $V_{CB} = 150V$		20 20 μA
I_{CEO}	Collector cut-off current ($I_B = 0$)	BDS16 BDS17	$V_{CE} = 60V$ $V_{CE} = 75V$		0.1 0.1 mA
I_{EBO}	Emitter cut-off current ($I_C = 0$)		$V_{EB} = 5V$		10 μA
$V_{CEO(sus)^*}$	Collector - Emitter sustaining voltage ($I_B = 0$)	BDS16 BDS17	$I_C = 100mA$	120 150	V
$V_{CE(sat)^*}$	Collector - Emitter saturation voltage	$I_C = 1A$	$I_B = 0.1A$		0.5 V
$V_{BE(on)^*}$	Base - Emitter voltage	$I_C = 1A$	$V_{CE} = 2V$		1.0 V
h_{FE}^*	DC Current gain	$I_C = 0.5A$ $I_C = 4A$	$V_{CE} = 2V$ $V_{CE} = 2V$	40 15	250 150
f_T	Transition frequency	$I_C = 0.5A$	$V_{CE} = 10V$	30	MHz

*Pulsed : Pulse duration = 300 μs , duty cycle = 1.5%

SWITCHING CHARACTERISTICS

Parameter	Test Conditions	Max.	Unit
t_{on}	On Time ($t_d + t_r$)	0.5	μs
t_s	Storage Time	3.0	μs
t_f	Fall Time	0.4	μs

THERMAL DATA

$R_{THj-case}$	Thermal resistance junction - case	Max. 2.5 $^{\circ}C/W$
R_{THj-a}	Thermal resistance junction - ambient	Max. 62.5 $^{\circ}C/W$



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