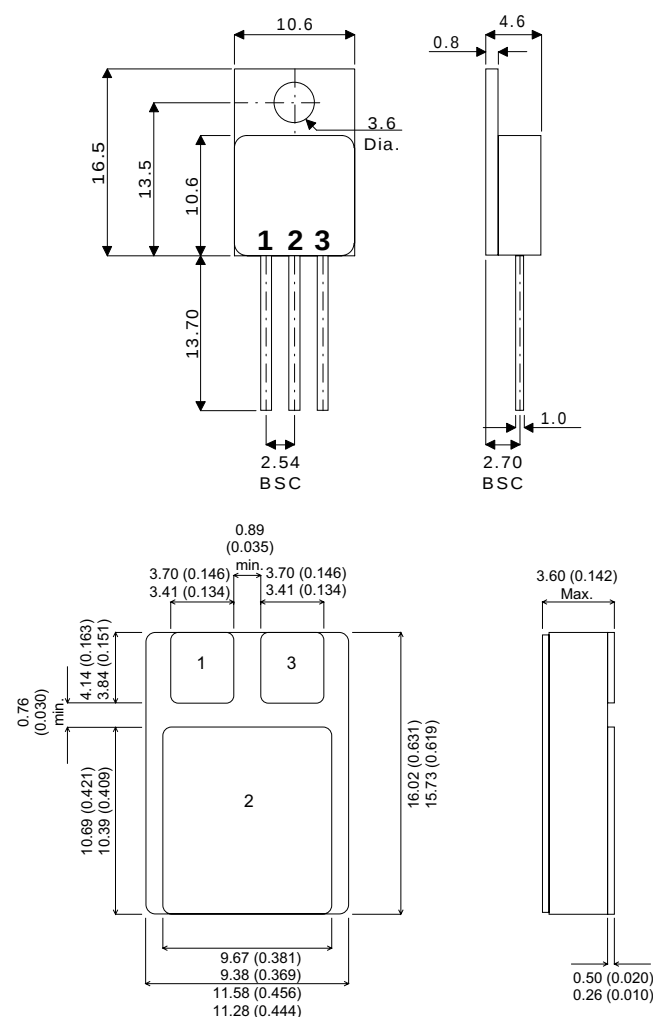


MECHANICAL DATA

Dimensions in mm



TO220M SMD1

- TO220 Metal Package - Isolated
- 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	

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

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 $V_{CB} = 120V$ BDS17 $V_{CB} = 150V$			20 20	μA
I_{CEO} Collector cut-off current ($I_B = 0$)	BDS16 $V_{CE} = 60V$ BDS17 $V_{CE} = 75V$			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 $I_C = 100mA$ BDS17	120 150			V
$V_{CE(sat)*}$ Collector - Emitter saturation voltage	$I_C = 1A$ $I_B = 0.1A$			0.5	V V
$V_{BE(on)*}$ Base - Emitter voltage	$I_C = 1A$ $V_{CE} = 2V$			1.0	V
h_{FE*} DC Current gain	$I_C = 0.5A$ $V_{CE} = 2V$ $I_C = 4A$ $V_{CE} = 2V$	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 ($t_d + t_r$)	$I_C = 2A$ $V_{CC} = 80V$ $I_{B1} = 0.2A$	0.5	μs
t_s Storage Time	$I_C = 2A$ $V_{CC} = 80V$	3.0	μs
t_f Fall Time	$I_{B1} = -I_{B2} = 0.2A$	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. $62.5^{\circ}C/W$