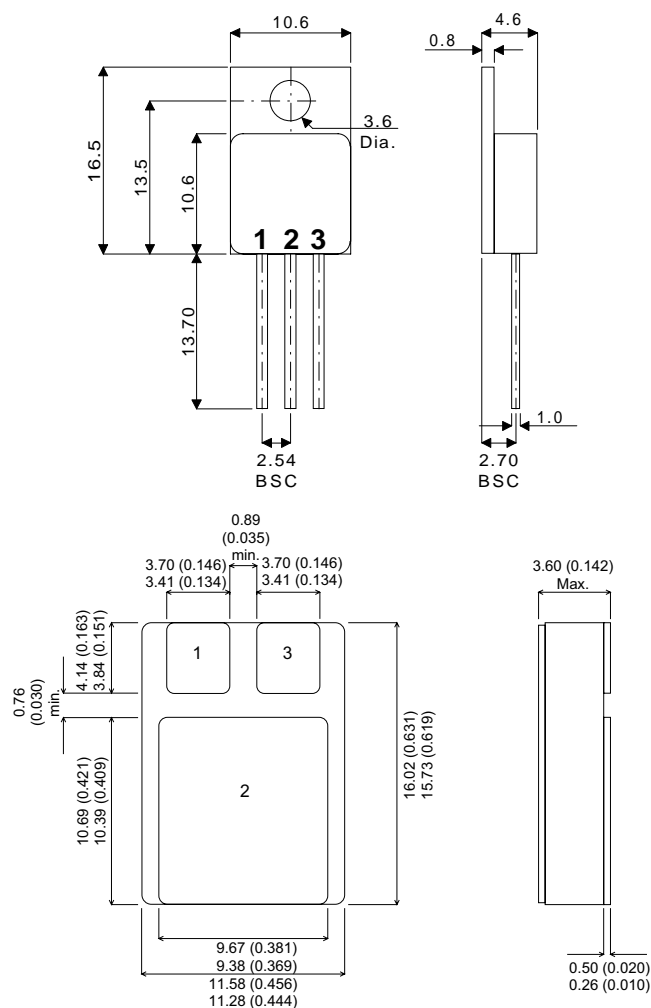


MECHANICAL DATA

Dimensions in mm



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

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

**SILICON PNP
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

ABSOLUTE MAXIMUM RATINGS ($T_{case}=25^{\circ}C$ unless otherwise stated)		BDS20 NPN	BDS21 PNP
V_{CBO}	Collector - Base voltage ($I_E = 0$)	80V	-80V
V_{CEO}	Collector - Emitter voltage ($I_B = 0$)	80V	-80V
V_{EBO}	Emitter - Base voltage ($I_C = 0$)	5V	-5V
$I_{C(PK)}$	Peak collector current	5A	-5A
I_B	Base current	0.1A	-0.1A
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 ($I_E = 0$)	$V_{CB} = 80V$			0.2	mA
I_{CEO}	Collector cut-off current ($I_B = 0$)	$V_{CE} = 40V$			0.5	mA
I_{EBO}	Emitter cut-off current ($I_C = 0$)	$V_{EB} = 5V$			2	mA
$V_{CEO(sus)*}$	Collector - Emitter sustaining voltage ($I_B = 0$)	$I_C = 30mA$	120			V
$V_{CE(sat)*}$	Collector - Emitter saturation voltage	$I_C = 3A$ $I_B = 12mA$ $I_C = 5A$ $I_B = 20mA$			2 4	V
$V_{BE(on)*}$	Base - Emitter voltage	$I_C = 3A$ $V_{CE} = 3V$			2.5	V
h_{FE*}	DC Current gain	$I_C = 0.5A$ $V_{CE} = 3V$ $I_C = 3A$ $V_{CE} = 3V$	1000 1000			

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

THERMAL DATA

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