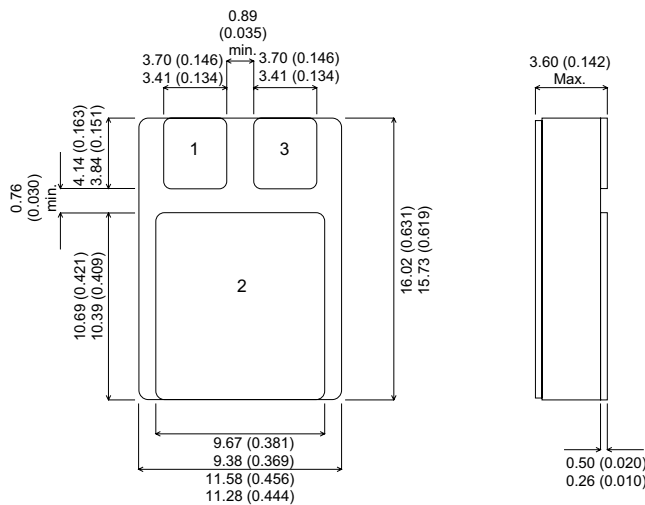
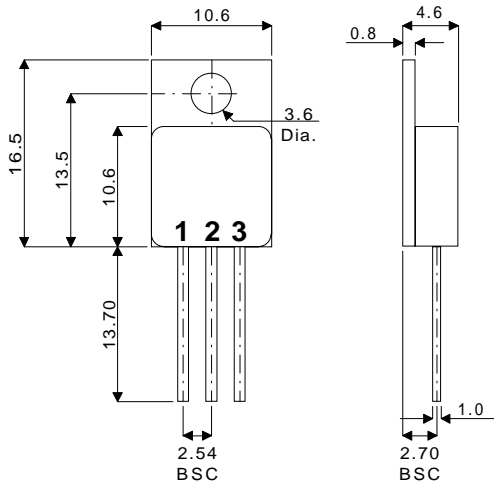


**MECHANICAL DATA**  
 Dimensions in mm

**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

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

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

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{case}=25^{\circ}C$ unless otherwise stated)		<b>BDS18</b>	<b>BDS19</b>
$V_{CBO}$	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 ( $I_E = 0$ )	<b>BDS18</b> $V_{CB} = -120V$ <b>BDS19</b> $V_{CB} = -150V$			$\mu A$
$I_{CEO}$	Collector cut-off current ( $I_B = 0$ )	<b>BDS18</b> $V_{CE} = -60V$ <b>BDS19</b> $V_{CE} = -75V$			mA
$I_{EBO}$	Emitter cut-off current ( $I_C = 0$ )	$V_{EB} = -5V$			$\mu A$
$V_{CEO(sus)^*}$	Collector - Emitter sustaining voltage ( $I_B = 0$ )	<b>BDS18</b> <b>BDS19</b> $I_C = -100mA$	-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	$I_C = -0.5A$ $V_{CE} = -2V$ $I_C = -4A$ $V_{CE} = -2V$	40 15	250 150	
$f_T$	Transition frequency	$I_C = -0.5A$ $V_{CE} = -10V$	30		MHz

\*Pulsed : Pulse duration = 300  $\mu s$  , duty cycle = 1.5%

**SWITCHING CHARACTERISTICS**

Parameter	Test Conditions	Max.	Unit
$t_{on}$	On Time ( $t_d + t_r$ )	0.5	$\mu s$
$t_s$	Storage Time	1.5	$\mu s$
$t_f$	Fall Time	0.3	$\mu s$

**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

