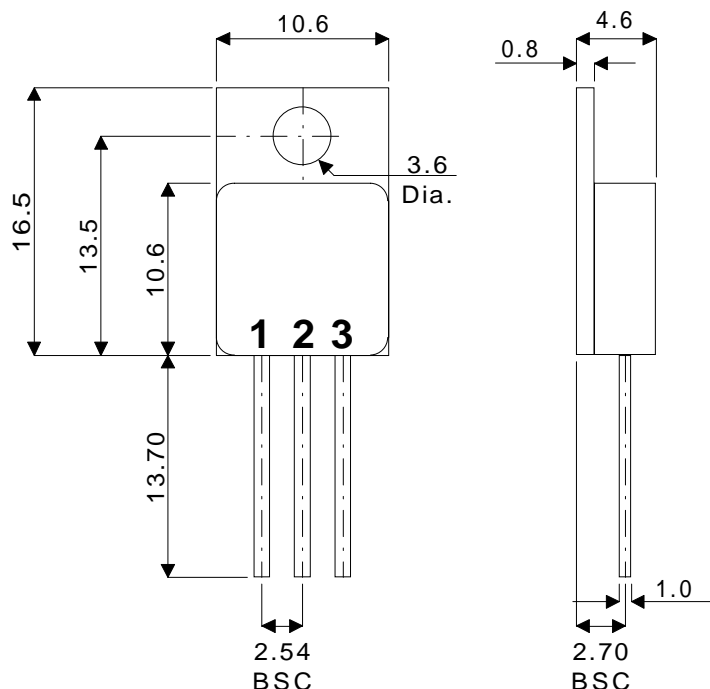


**MECHANICAL DATA**

Dimensions in mm



**SILICON NPN  
EPITAXIAL BASE IN  
TO220 METAL PACKAGE**

**FEATURES**

- HERMETIC METAL PACKAGES
- HIGH RELIABILITY
- MILITARY AND SPACE OPTIONS
- SCREENING TO CECC LEVELS
- FULLY ISOLATED

**APPLICATIONS**

- POWER LINEAR AND SWITCHING APPLICATIONS
- GENERAL PURPOSE POWER

**TO220 PACKAGE**

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

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

$V_{CBO}$	Collector - Base voltage ( $I_E = 0$ )	80V
$V_{CEO}$	Collector - Emitter voltage ( $I_B = 0$ )	80V
$V_{EBO}$	Emitter - Base voltage ( $I_C = 0$ )	6V
$I_C$	Collector current	5A
$I_B$	Base current	1A
$P_{tot}$	Total power dissipation at $T_{case} = 25^{\circ}C$	10W
$T_{stg}$	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 $I_E = 0$ $V_{CB} = 80V$			10	$\mu A$
$I_{CEO}$	Collector cut-off current $I_B = 0$ $V_{CE} = 75V$			100	
$I_{EBO}$	Emitter cut-off current $V_{EB} = 6V$			100	
$V_{CEO(sus)^*}$	Collector - Emitter Sustaining voltage $I_B = 0$ $I_C = 50mA$	80			V
$V_{CE(sat)^*}$	Collector - Emitter Saturation voltage $I_C = 5A$ $I_B = 0.5A$			1.2	
	$I_C = 2A$ $I_B = 0.2A$			0.7	
$V_{BE(sat)^*}$	Base - Emitter Saturation voltage $I_C = 2A$ $I_B = 0.2A$			1.2	
$h_{FE}^*$	DC Current gain $I_C = 0.5A$ $V_{CE} = 2V$	60			
	$I_C = 2A$ $V_{CE} = 2V$	60		240	
	$I_C = 5A$ $V_{CE} = 2V$	40			
$f_T$	Transition frequency $I_C = 0.5A$ $V_{CE} = 10V$	10			MHz

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

**SWITCHING CHARACTERISTICS**

Parameter	Test Conditions	Max.	Unit
$t_{on}$	On Time ( $t_d + t_r$ ) $I_C = 2A$ $V_{CC} = 10V$ $I_{B1} = 0.2A$	0.7	$\mu s$
$t_s$	Storage Time $I_C = 2A$ $V_{CC} = 10V$	2.0	$\mu s$
$t_r$	Fall Time $I_{B1} = -I_{B2} = 0.2A$	0.8	$\mu s$

**THERMAL DATA**

$R_{THj-case}$	Thermal resistance junction - case	Max. 17.5°C/W
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\*\* Smooth flat surface using thermal grease.