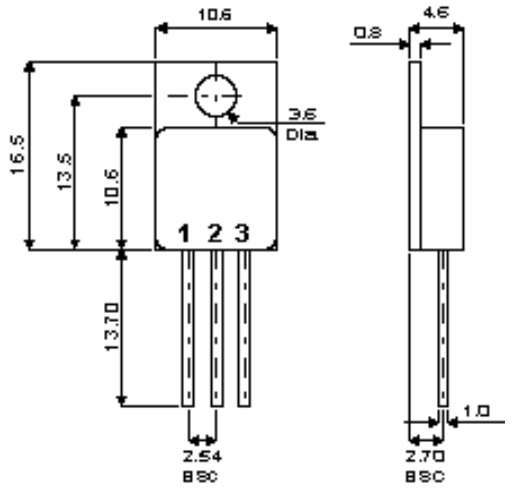
BDS16 BDS16SMD BDS16SMD05
BDS17 BDS17SMD BDS17SMD05

MECHANICAL DATA
Dimensions in mm

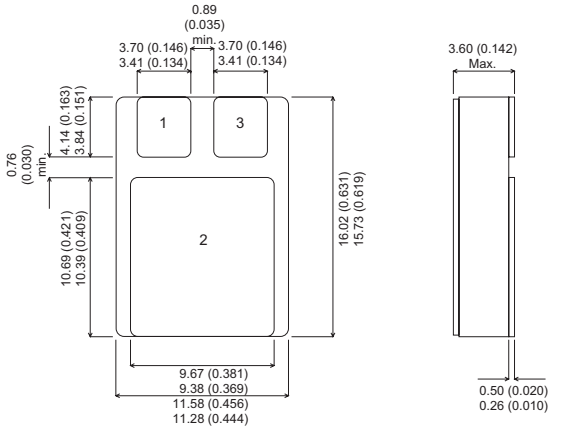


TO220M - TO220 Metal Package - Isolated
Pin 1 – Base **Pin 2** – Collector **Pin 3** – Emitter

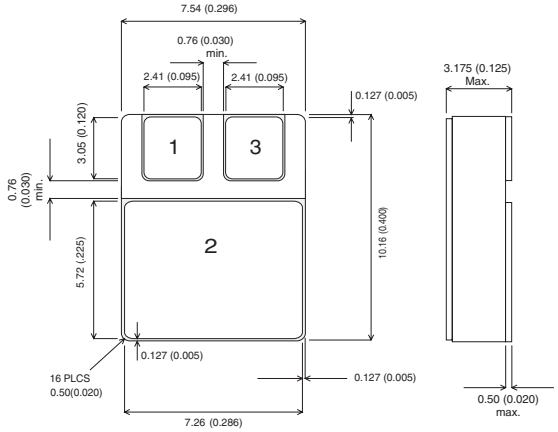
SILICON NPN EPITAXIAL BASE IN TO220 METAL AND SMD CERAMIC SURFACE MOUNT PACKAGES

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**



SMD1(TO276AB)- Ceramic Surface Mount Package
Pad 1 – Base **Pad 2** – Collector **Pad 3** – Emitter



SMD05 (TO276AA)- Ceramic Surface Mount Package
Pad 1 – Base **Pad 2** – Collector **Pad 3** – Emitter

ABSOLUTE MAXIMUM RATINGS (T_{case}=25°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} = 25°C	43.75W	
T_{stg}	Storage Temperature	–65 TO 200°C	
T_j	Junction Temperature	200°C	

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Document Number 3347
Issue 2

BDS16 BDS16SMD BDS16SMD05
BDS17 BDS17SMD BDS17SMD05

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector cut-off current (I_E = 0)	**BDS16**	V_{CB} = 120V			20	µA
		BDS17	V_{CB} = 150V			20	
I_{CEO}	Collector cut-off current (I_B = 0)	**BDS16**	V_{CE} = 60V			0.1	mA
						0.1	
I_{EBO}	Emitter cut-off current (I_C = 0)	**BDS17** V_{EB} = 5V	V_{CE} = 75V			10	µA
$V_{CEO(sus)}$*	Collector - Emitter sustaining voltage (I_B = 0)	**BDS16**	I_C = 100mA	120			V
		BDS17		150			
$V_{CE(sat)}$*	Collector - Emitter saturation voltage	I_C = 4A	I_B = 0.4A			1.5	V
		I_C = 0.5A	I_B = 0.05A			0.4	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	40		250	
		I_C = 4A	V_{CE} = 2V	15		150	
f_T	Transition frequency	I_C = 0.5A F = 20MHz	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 $I_{B1} = -I_{B2}$ = 0.2A	1.5	µs
t_f	Fall Time		0.3	µs

THERMAL DATA

$R_{THj\text{-}case}$	Thermal resistance junction - case	Max. 4.0 °C/W

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