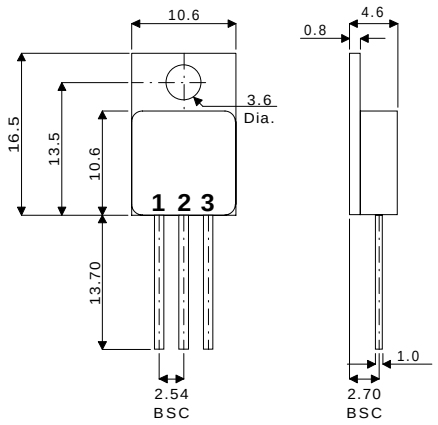
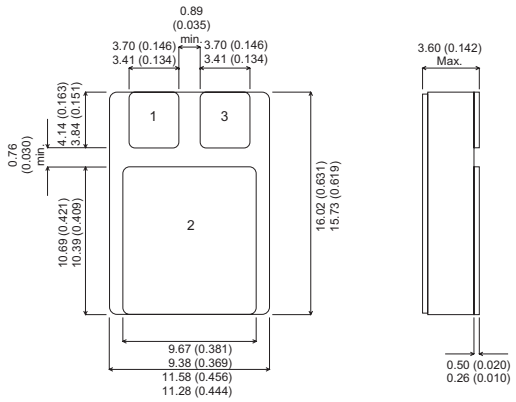
BDS18 BDS18SMD BDS18SMD05
BDS19 BDS19SMD BDS19SMD05

MECHANICAL DATA
Dimensions in mm



TO220M (TO257AB) Metal Package - Isolated
Pin 1 – Base **Pin 2** – Collector **Pin 3** – Emitter

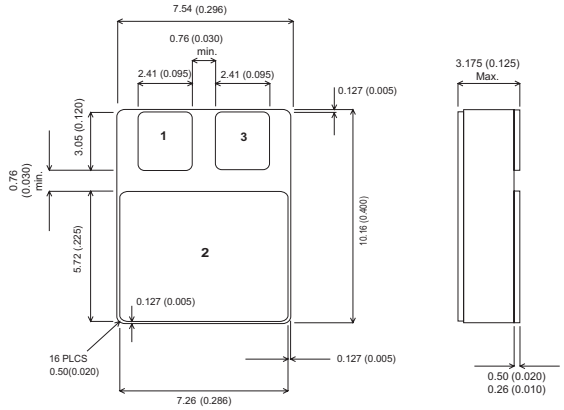


SMD1 (TO276AB) Ceramic Surface Mount Package
Pad 1 – Base **Pad 2** – Collector **Pad 3** – Emitter

SILICON PNP 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**



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)

		BDS18	BDS19
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 $T_{case} \leq 75°C$	50W	
T_{stg}	Storage Temperature	–65 TO 200°C	
T_j	Junction Temperature	200°C	

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BDS18 BDS18SMD BDS18SMD05
BDS19 BDS19SMD BDS19SMD05

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)	**BDS18** V_{CB} = –120V **BDS19** V_{CB} = –150V			–20 –20	µA
I_{CEO}	Collector cut-off current (I_B = 0)	**BDS18** V_{CE} = –60V **BDS19** 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)	**BDS18** **BDS19** I_C = –100mA	–120 –150			V
$V_{CE(sat)}$*	Collector - Emitter saturation voltage	I_C = –0.5A I_B = –0.05A I_C = –4.0A V_{CE} = –4A			–0.4 –1.5	V V
$V_{BE(on)}$*	Base - Emitter voltage	I_C = –0.5A V_{CE} = –2V			–1.0	V
h_{FE}*	DC Current gain	I_C = –4A V_{CE} = –2V	40 15		250 150	
f_T	Transition frequency	I_C = –0.5A V_{CE} = –4V F = 20MHz	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. 2.5°C/W
$R_{THj\text{-}a}$	Thermal resistance junction - ambient (TO220 Only)	Max. 62.5°C/W

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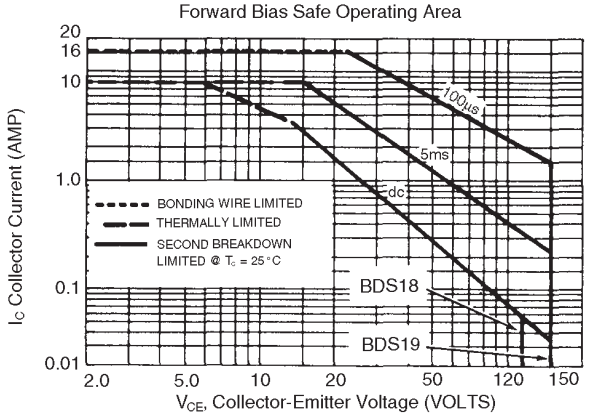
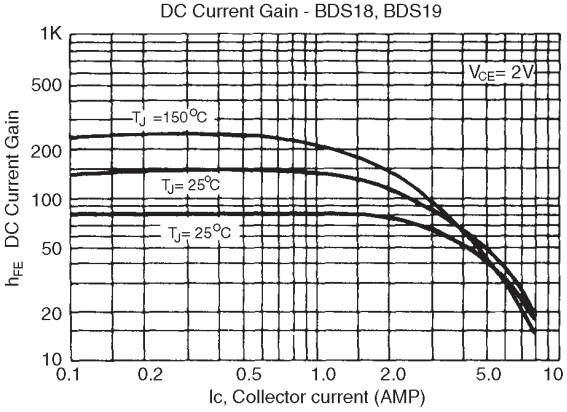
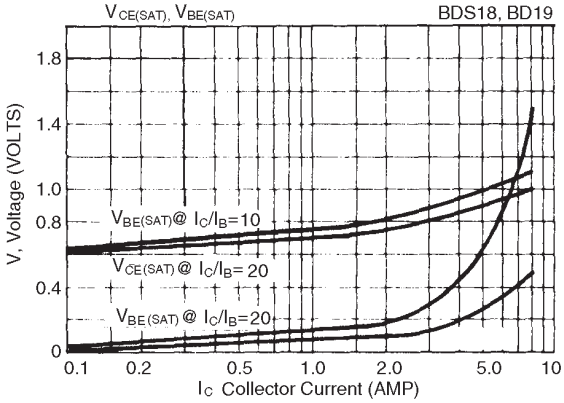
Forward Bias Safe Operating Area



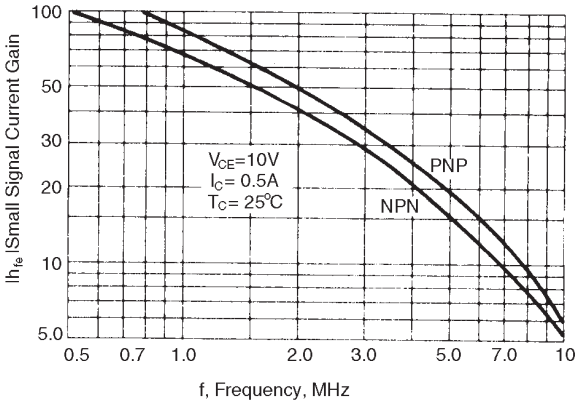
DC Current Gain - BDS18, BDS19



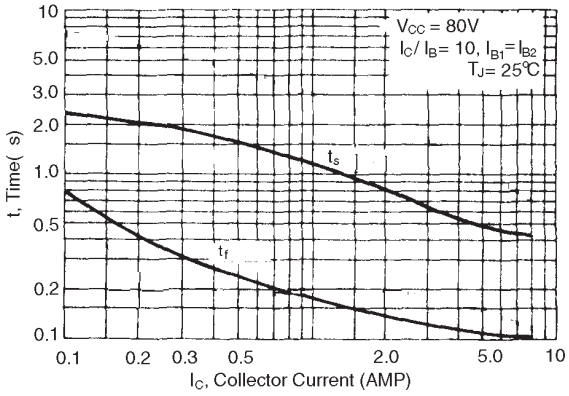
$V_{CE(SAT)}$, $V_{BE(SAT)}$ BDS18, BD19



Small Signal Current Gain



Turn - off Times



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