

COMPLEMENTARY POWER DARLINGTON

BDS28A/B/CN2 BDS29A/B/CN2

- High DC Current Gain
- Hermetic Ceramic Surface Mount Package
- Screening Options Available
- Designed for General Purpose Amplifier Applications



ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

		PNP	BDS28A	BDS28B	BDS28C
		NPN	BDS29A	BDS29B	BDS29C
V_{CBO}	Collector – Base Voltage		60V	90V	120V
V_{CEO}	Collector – Emitter Voltage		60V	90V	120V
V_{EBO}	Emitter – Base Voltage			5V	
I_C	Continuous Collector Current			30A	
I_B	Base Current			1.0A	
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C			150W 0.857W/ $^\circ\text{C}$	
T_J	Junction Temperature Range			-65 to $+200^\circ\text{C}$	
T_{stg}	Storage Temperature Range			-65 to $+200^\circ\text{C}$	

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			1.16	$^\circ\text{C/W}$

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ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	BDS 28A BDS 29A	$I_C = 100\text{mA}$	60			V
		BDS 28B BDS 29B	$I_B = 0$	90			
		BDS 28C BDS 29C		120			
I_{CER}	Collector-Emitter Leakage Current	$V_{CE} = V_{CEO} \text{ Max.}$	$R_{BE} = 1.0\text{K}\Omega$			1.0	mA
			$T_C = 150^\circ\text{C}$			5	
I_{EBO}	Emitter Cut-Off Current	$I_C = 0$	$V_{BE} = 5\text{V}$			5	
I_{CEO}	Collector-Emitter Leakage Current	$I_B = 0$	$V_{CE} = 50\text{V}$			1.0	
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 20\text{A}$	$I_B = 0.2\text{A}$			3	V
		$I_C = 30\text{A}$	$I_B = 0.3\text{A}$			4	
$V_{BE(sat)}^{(1)}$	Emitter-Base Saturation Voltage	$I_C = 20\text{A}$	$I_B = 0.2\text{A}$			3.5	
		$I_C = 30\text{A}$	$I_B = 0.3\text{A}$			5	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 20\text{A}$	$V_{CE} = 5\text{V}$	1000			-
		$I_C = 30\text{A}$	$V_{CE} = 5\text{V}$	200			

DYNAMIC CHARACTERISTICS

$h_{fe}^{(1)}$	Small-Signal Current Gain	$I_C = 1\text{A}$ $f = 1.0\text{MHz}$	$V_{CE} = 3\text{V}$	4			MHz
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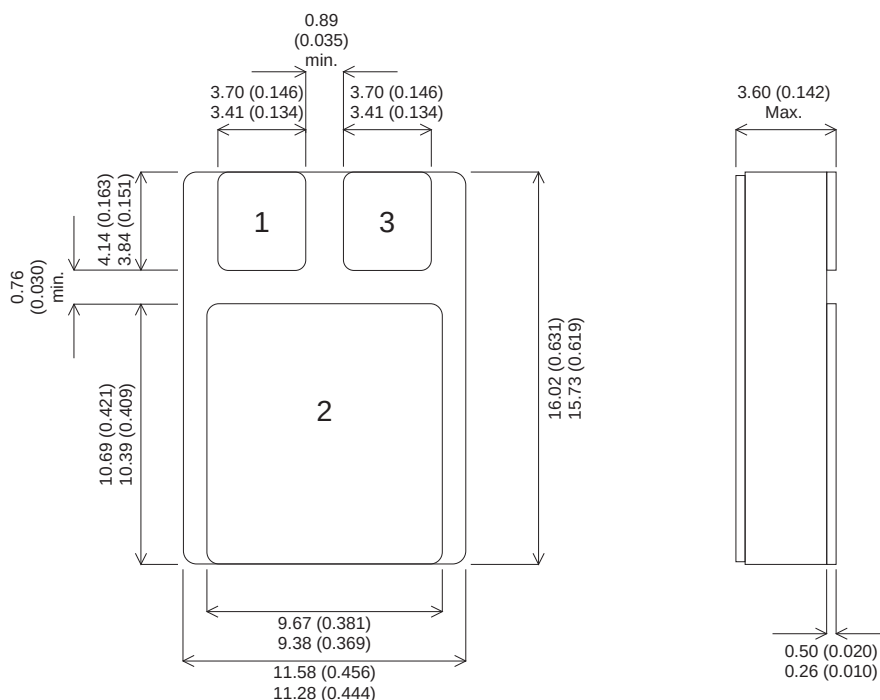
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

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MECHANICAL DATA

Dimensions in mm (inches)



SMD1 (TO-276AB)

Underside View

Pad 1 – Base Pad 2 – Collector Pad 3 - Emitter