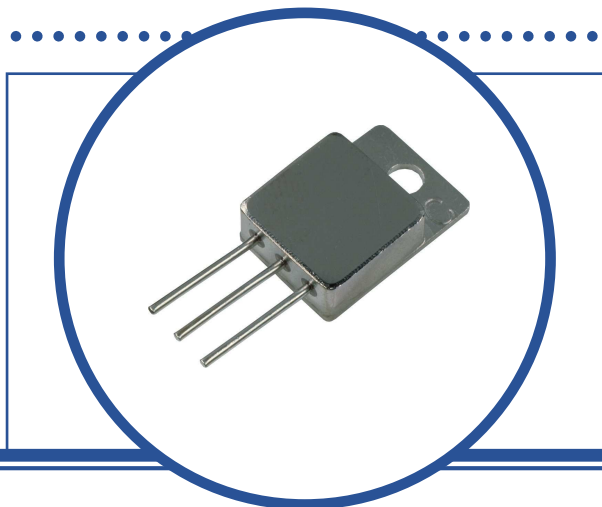


COMPLEMENTARY POWER DARLINGTON

BDS28A/B/CM3A BDS29A/B/CM3A

- High DC Current Gain
- Hermetic Isolated TO-254AA 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	$^\circ\text{C/W}$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

COMPLEMENTARY POWER DARLINGTON BDS28A/B/CM3A BDS29A/B/CM3A

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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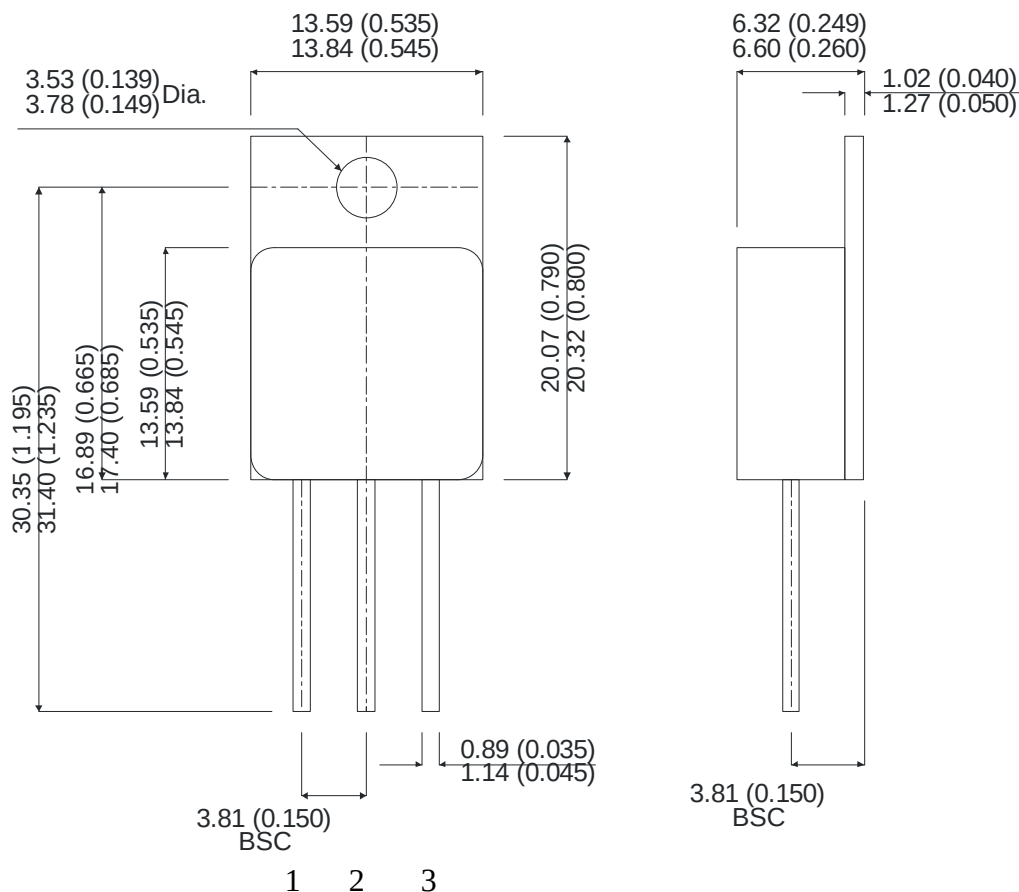
Notes

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

COMPLEMENTARY POWER DARLINGTON BDS28A/B/CM3A BDS29A/B/CM3A

MECHANICAL DATA

Dimensions in mm (inches)



TO254 (TO-254AA)

Pin 1 – Base

Pin 2 – Collector

Pin 3 – Emitter

Case is isolated