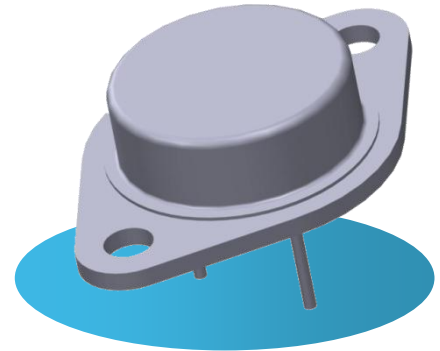


Power and Hybrid

NPN EPITAXIAL BASE

DARLINGTON POWER TRANSISTOR

BDX63 / BDX63A / BDX63B / BDX63C



- Hermetic TO3 Metal Package
- Ideally Suited for General Purpose Switching and Amplifier Applications
- Screening Options Available

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

		BDX63	BDX63A	BDX63B	BDX63C
V_{CEO}	Drain – Source Voltage	60V	80V	100V	120V
V_{CBO}	Gate – Source Voltage	80V	100V	120V	140V
V_{EBO}	Continuous Drain Current, Per Device			5V	
I_C	Collector Current			8A	
I_{CM}	Collector Current (peak)			12A	
I_B	Base Current			150mA	
P_{tot}	Total Power Dissipation @ $T_C = 25^\circ\text{C}$			90W	
T_J	Junction Temperature Range			-55 to +200°C	
T_{stg}	Storage Temperature Range			-65 to +200°C	

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case	1.94	°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.

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NPN EPITAXIAL BASE DARLINGTON POWER TRANSISTOR BDX63 / BDX63A / BDX63B / BDX63C

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
I_{CBO}	Collector – Base Cut-Off Current	$I_E = 0 \quad V_{CB} = V_{CEOmax}$			0.2	mA
		$I_E = 0 \quad V_{CB} = \frac{1}{2}V_{CBOmax}$			2	
		$T_A = 150^\circ\text{C}$				
I_{CEO}	Collector – Emitter Cut-Off Current	$I_B = 0 \quad V_{CE} = \frac{1}{2}V_{CEOmax}$			0.5	
I_{EBO}	Emitter – Base Cut-Off Current	$I_C = 0 \quad V_{EB} = 5V$			5	
$h_{FE}^{(1)}$	DC Current Gain	$I_C = 0.5A \quad V_{CE} = 3V$		1475		-
		$I_C = 3A \quad V_{CE} = 3V$	1000			
		$I_C = 8A \quad V_{CE} = 3V$		5200		
$V_{BE}^{(1)}$	Base – Emitter Voltage	$I_C = 3A \quad V_{CE} = 3V$			2.5	V
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	$I_C = 3A \quad I_B = 12mA$			2	
V_F	Diode, Forward Voltage	$I_F = 3A$		0.86		

DYNAMIC CHARACTERISTICS

C_{OBO}	Output Capacitance	$I_E = 0 \quad V_{CB} = 10V$ $f = 1.0MHz$		150		pF
$f_{hfe}^{(2)}$	Cut-Off Frequency	$I_C = 3A \quad V_{CE} = 3V$		100		kHz
$ h_{fe} ^{(2)}$	Small Signal Current Gain	$I_C = 3A \quad V_{CE} = 3V$ $f = 1.0MHz$		100		-

Notes

- (1) Pulse Width $\leq 380\mu s$, $\delta \leq 2\%$
(2) Not a Production Test, By Design Only

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