

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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