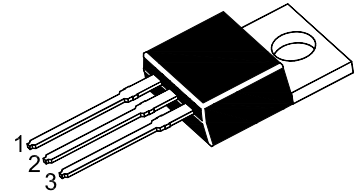


BD909 / BD911

NPN Complementary Silicon Power Transistors



1.Base 2.Collector 3.Emitter

TO-220 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value		Unit
		BD909	BD911	
Collector Base Voltage	V_{CBO}	80	100	V
Collector Emitter Voltage	V_{CEO}	80	100	V
Emitter Base Voltage	V_{EBO}	5		V
Collector Current	I_C	15		A
Base Current	I_B	5		A
Total Power Dissipation @ $T_C \leq 25\text{ }^\circ\text{C}$	P_{tot}	90		W
Operating Junction Temperature Range	T_J	150		$^\circ\text{C}$
Storage Junction Temperature Range	T_J, T_s	-65 to +150		$^\circ\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.4		$^\circ\text{C/W}$

TOP DYNAMIC



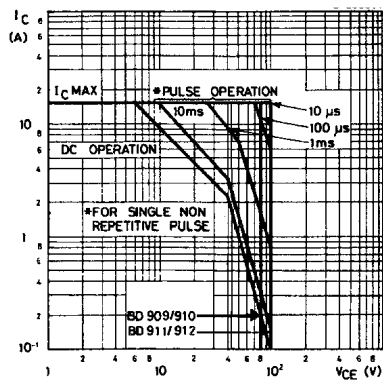
Dated : 17/09/2016 Rev: 01

BD909 / BD911

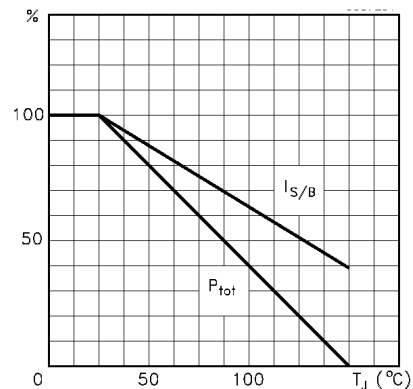
Characteristics at $T_c = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $V_{CE} = 4\text{ V}$, $I_C = 0.5\text{ A}$	h_{FE}	40	250	-
at $V_{CE} = 4\text{ V}$, $I_C = 5\text{ A}$	h_{FE}	15	150	-
at $V_{CE} = 4\text{ V}$, $I_C = 10\text{ A}$	h_{FE}	5	-	-
Collector Emitter Sustaining Voltage				
at $I_C = 100\text{ mA}$	$V_{CEO(sus)}$	80	-	V
		100	-	
Collector Cutoff Current				
at $V_{CB} = 80\text{ V}$	I_{CBO}	-	0.5	mA
at $V_{CB} = 100\text{ V}$	I_{CBO}	-	0.5	mA
Collector Cutoff Current				
at $V_{CE} = 40\text{ V}$	I_{CEO}	-	1	mA
at $V_{CE} = 50\text{ V}$	I_{CEO}	-	1	mA
Emitter Cutoff Current				
at $V_{EB} = 5\text{ V}$	I_{EBO}	-	1	mA
Collector Emitter Saturation Voltage				
at $I_C = 5\text{ A}$, $I_B = 0.5\text{ A}$	$V_{CE(sat)}$	-	1	V
at $I_C = 10\text{ A}$, $I_B = 2.5\text{ A}$	$V_{CE(sat)}$	-	3	V
Base Emitter Saturation Voltage				
at $I_C = 10\text{ A}$, $I_B = 2.5\text{ A}$	$V_{BE(sat)}$	-	2.5	V
Base Emitter Voltage				
at $I_C = 5\text{ A}$, $V_{CE} = 4\text{ V}$	V_{BE}	-	1.5	V
Transition Frequency				
at $V_{CE} = 4\text{ V}$, $I_C = 0.5\text{ A}$,	f_T	3	-	MHz

Safe Operating Area



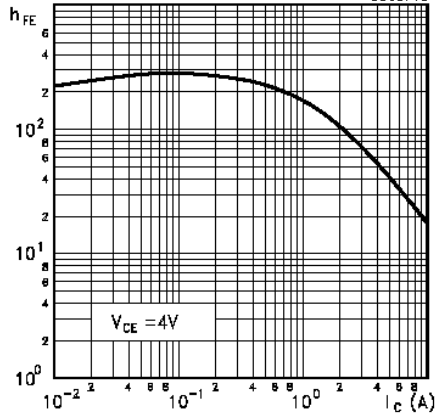
Derating Curves



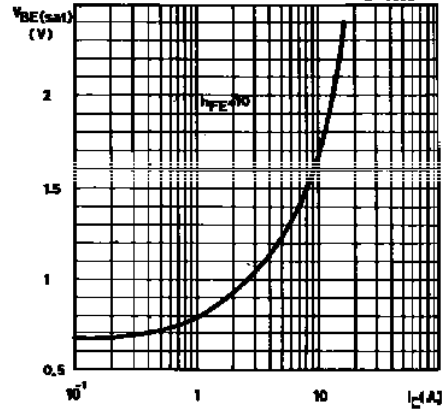
TOP DYNAMIC



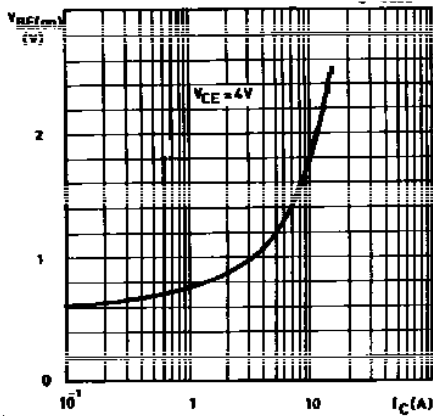
DC Current Gain



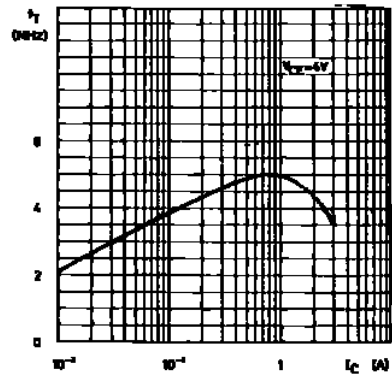
Base-Emitter Saturation Voltage



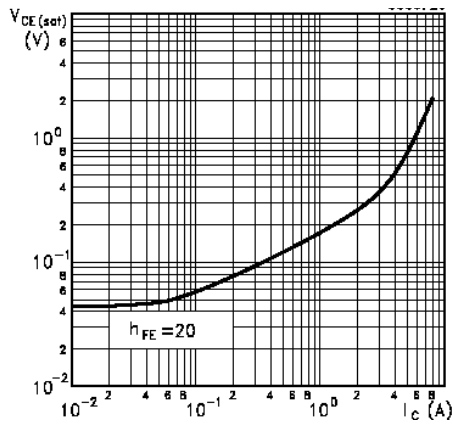
DC Transconductance



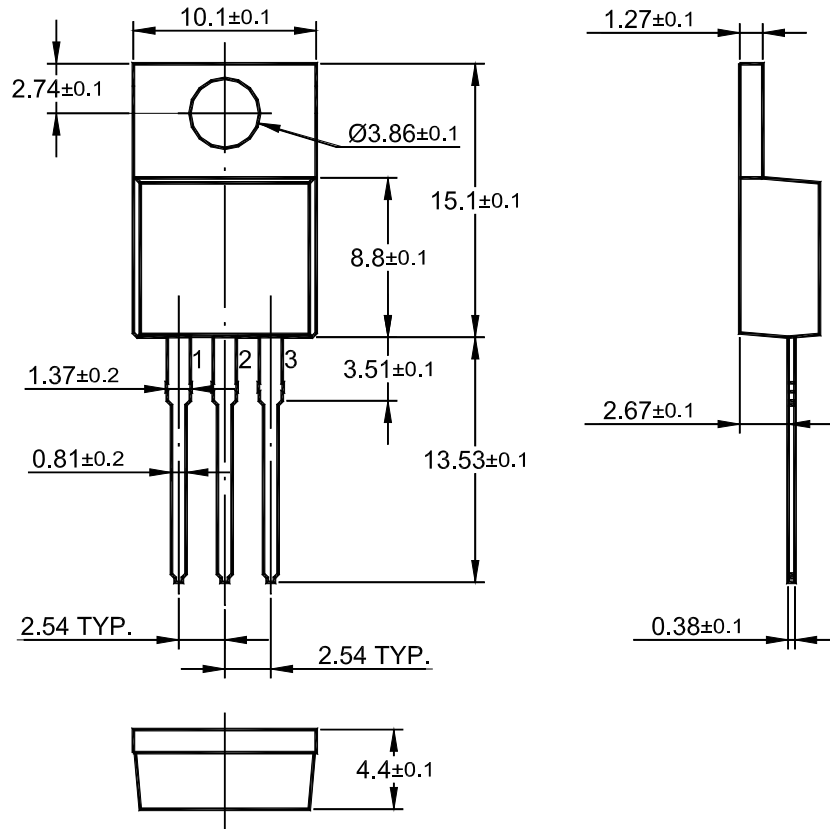
Transition Frequency



Collector-Emitter Saturation Voltage



TO-220 PACKAGE OUTLINE



Dimensions in mm