COMPLEMENTARY SILICON PLASTIC POWER TRANSISTORS

... designed for use in general purpose power amplifier and switching applications.

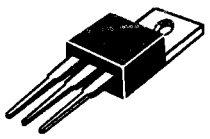
NPN	PNP
BD905	BD906
BD907	BD908
BD909	BD910
BD911	BD912

FEATURES:

* Collector-Emitter Sustaining Voltage - $V_{CEO(sus)}$= 45V(Min)- BD905, BD906
  60V(Min)- BD907, BD908
  80V(Min)- BD909, BD910
  100V(Min)- BD911, BD912
* DC Current Gain hFE= 40(Min)@I_C= 0.5A
* Current Gain-Bandwidth Product fT=3.0 MHz (Min)@ I_C=500mA

Boca Semiconductor Corp.
BSC
http://www.bocasemi.com

15 AMPERE
COMPLEMENTARY SILICON
POWER TRANSISTORS
45 -100 VOLTS
90 WATTS



TO-220

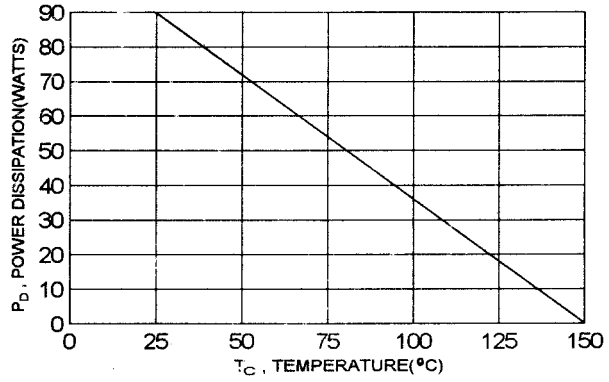
MAXIMUM RATINGS

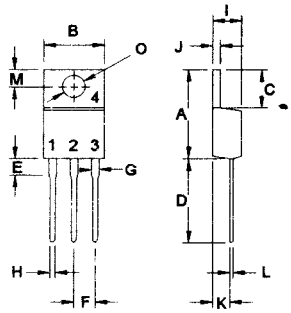
Characteristic	Symbol	BD905 BD906	BD907 BD908	BD909 BD910	BD911 BD912	Unit
Collector-Emitter Voltage	V_{CEO}	45	60	80	100	V
Collector-Base Voltage	V_{CBO}	45	60	80	100	V
Emitter-Base Voltage	V_{EBO}	5.0				V
Collector Current - Continuous - Peak	I_C	15 20				A
Base Current	I_B	5.0				A
Total Power Dissipation@T_C = 25°C Derate above 25°C	P_D	90 0.72				W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150				°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.38	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

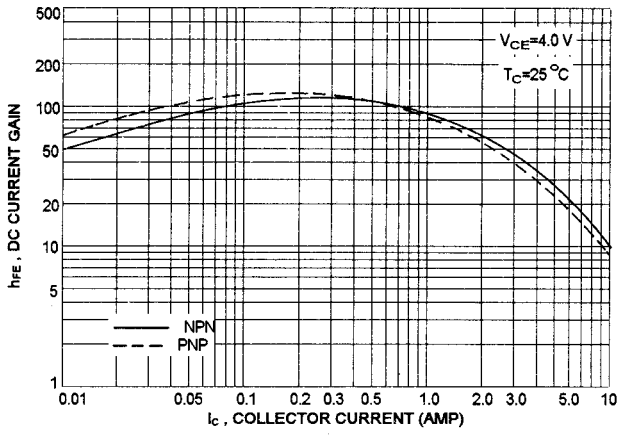
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage(1) (I_C= 50 mA, I_B= 0)	BD905,BD906 BD907,BD908 BD909,BD910 BD911,BD912	$V_{CEO(sus)}$	45 60 80 100		V
Collector Cutoff Current (V_{CE}= 30 V, I_B= 0) (V_{CE}= 30 V, I_B= 0) (V_{CE}= 40 V, I_B= 0) (V_{CE}= 50 V, I_B= 0)	 BD905,BD906 BD907,BD908 BD909,BD910 BD911,BD912	I_{CEO}		 1.0 1.0 1.0 1.0	mA
Collector Cutoff Current (V_{CB}= 45 V, I_E= 0) (V_{CB}= 60 V, I_E= 0) (V_{CB}= 80 V, I_E= 0) (V_{CB}= 100 V, I_E= 0)	 BD905,BD906 BD907,BD908 BD909,BD910 BD911,BD912	I_{CBO}		 0.5 0.5 0.5 0.5	mA
Emitter Cutoff Current (V_{EB}= 5.0 V, I_C= 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
DC Current Gain (I_C = 0.5 A, V_{CE} = 4.0 V) (I_C = 5.0 A, V_{CE} = 4.0 V) (I_C = 10 A, V_{CE} = 4.0 V)		hFE	 40 15 5.0	 250 150	
Collector-Emitter Saturation Voltage (I_C = 5.0 A, I_B = 0.5 A) (I_C = 10 A, I_B = 2.5 A)		$V_{CE(sat)}$		 1.0 3.0	V
Base-Emitter Saturation Voltage (I_C = 10 A, I_B = 2.5 A)		$V_{BE(sat)}$		2.5	V
Base-Emitter On Voltage (I_C =5.0 A, V_{CE}= 4.0 V)		$V_{BE(on)}$		1.5	V
DYNAMIC CHARACTERISTICS					
Current Gain-Bandwidth Prodct (2) (I_C=500 mA, V_{CE}=4.0 V, f= 1MHz)		f_T	3.0		MHz

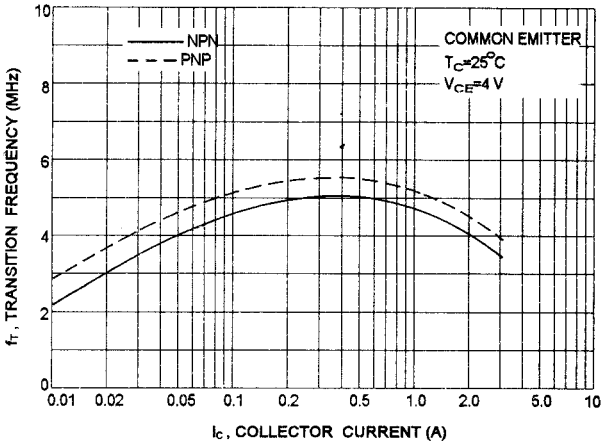
(1) Pulse Test: Pulse width = 300 us , Duty Cycle ≦ 2.0%

(2) $f_T = |h_{fe}| \cdot f_{test}$

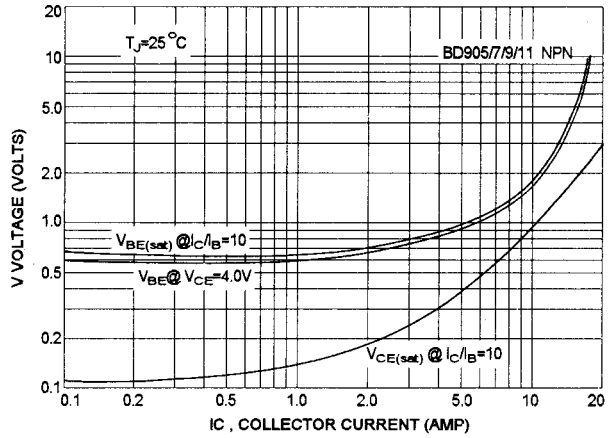
DC CURRENT GAIN



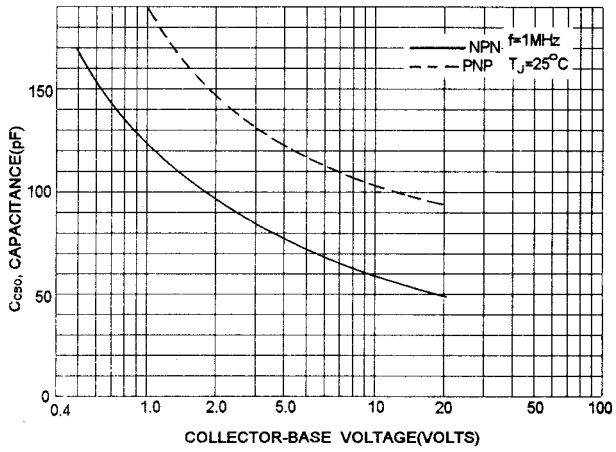
f_T - Ic



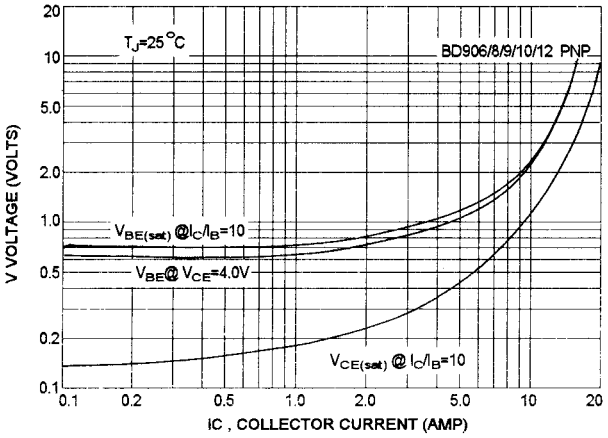
"ON" VOLTAGES



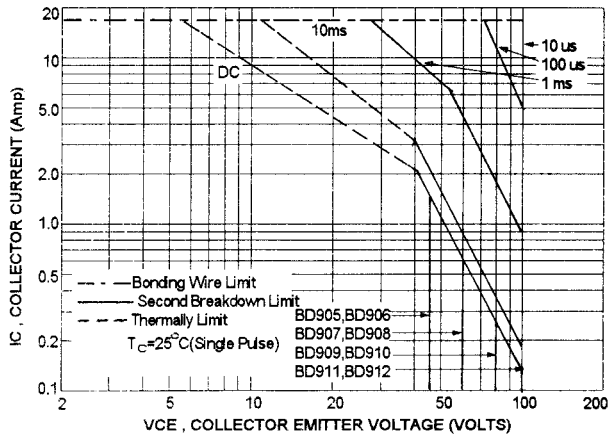
COLLECTOR-BASE CAPACITANCES



"ON" VOLTAGES



ACTIVE REGION SAFE OPERATING AREA(SOA)



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