MOSPEC

NPN SILICON POWER TRANSISTORS

...designed for use in power amplifier and switching circuits .

NPN

2SC2908

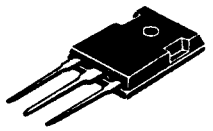
FEATURES:

*Collector-Emitter Sustaining Voltage-
$V_{CEO(sus)}$ = 100 V (Min)

* Collector-Emitter Saturation Voltage -
$V_{CE(sat)}$ = 1.0 V (Max.) @ I_C = 3..0 A, I_B = 0.3A

* Switching Time - t_f = 1.0 us (Max.) @ I_C =3.0 A

5.0 AMPERE
SILICON POWER
TRANASISTORS
100 VOLTS
50 WATTS



TO-247(3P)

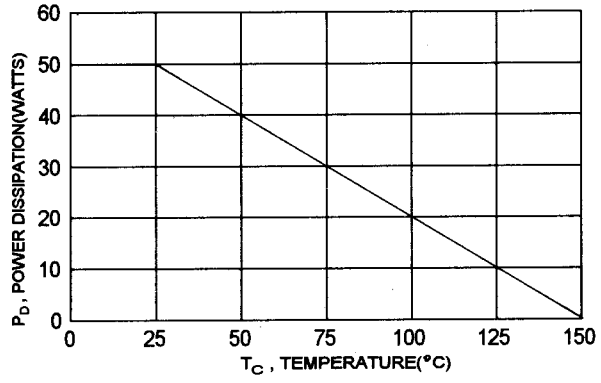
MAXIMUM RATINGS

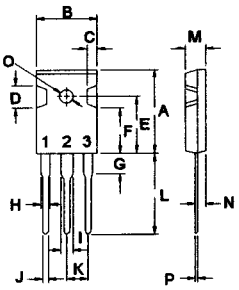
Characteristic	Symbol	2SC2908	Unit
Collector-Emitter Voltage	V_{CEO}	100	V
Collector-Base Voltage	V_{CBO}	200	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current - Continuous - Peak	I_C I_{CM}	5.0 10	A
Base current	I_B	2.5	A
Total Power Dissipation @T_C = 25°C Derate above 25°C	P_D	50 0.4	W W/°C
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-55 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	2.5	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER

DIM	MILLIMETERS	
	MIN	MAX
A	20.63	22.38
B	15.38	16.20
C	1.90	2.70
D	5.10	6.10
E	14.81	15.22
F	11.72	12.84
G	4.20	4.50
H	1.82	2.46
I	2.92	3.23
J	0.89	1.53
K	5.26	5.66
L	18.50	21.50
M	4.68	5.36
N	2.40	2.80
O	3.25	3.65
P	0.55	0.70

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

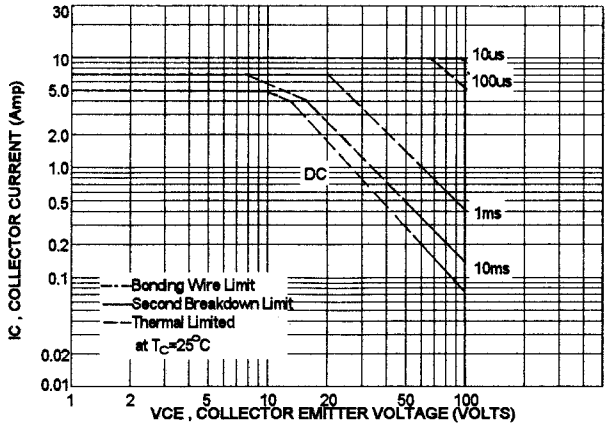
Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (I_C= 3.0A, I_{B1}= 0.3 A, L=1.0 mH)	$V_{CEO(SUS)}$	100		V
Collector Cutoff Current (V_{CE}= 100 V, $V_{BE(OFF)}$= -1.5V)	I_{CEX}		10	uA
Collector Cutoff Current (V_{CB}= 100 V, I_E= 0)	I_{CBO}		10	uA
Emitter Cutoff Current (V_{EB}= 5.0 V, I_C= 0)	I_{EBO}		10	uA
ON CHARACTERISTICS (1)				
DC Current Gain (I_C= 0.3 A, V_{CE}= 5.0 V) * (I_C= 3.0 A, V_{CE}= 5.0 V)	hFE(2) hFE	60 40	320	
Collector-Emitter Saturation Voltage (I_C= 3.0 A, I_B= 300 mA)	$V_{CE(sat)}$		1.0	V
Base-Emitter Saturation Voltage (I_C= 3.0 A, I_B= 300 mA)	$V_{BE(sat)}$		1.5	V
SWITCHING CHARATERISTICS				
Turn-on Time	V_{CC}= 30 V, I_C= 3.0 A I_{B1}= -I_{B2}= 300 mA R_L= 10 ohm	t_{on}	0.5	us
Storage Time		t_s	2.0	us
Fall Time		t_f	1.0	us

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

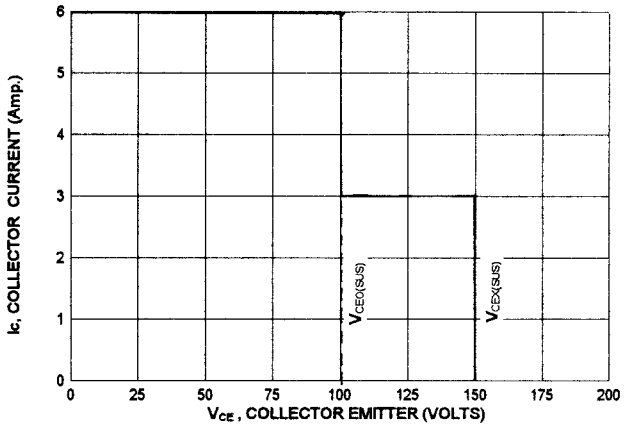
* hFE(2) Classification :

60	M	120	100	L	200	160	K	320

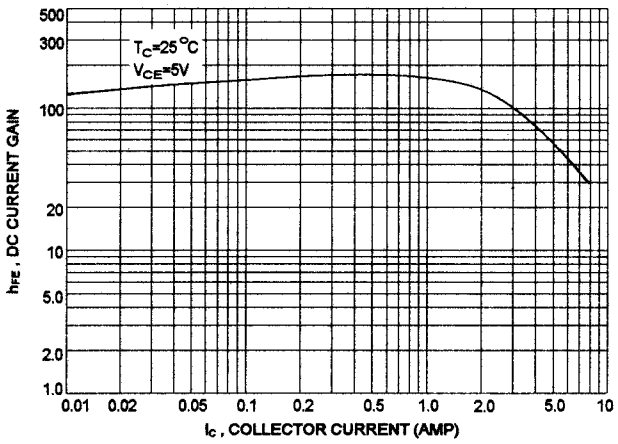
SAFE OPERATING AREA



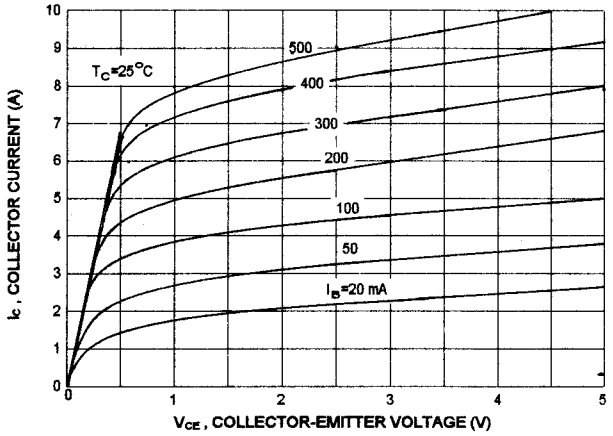
REVERSE BIASE SAFE OPERATING AREA



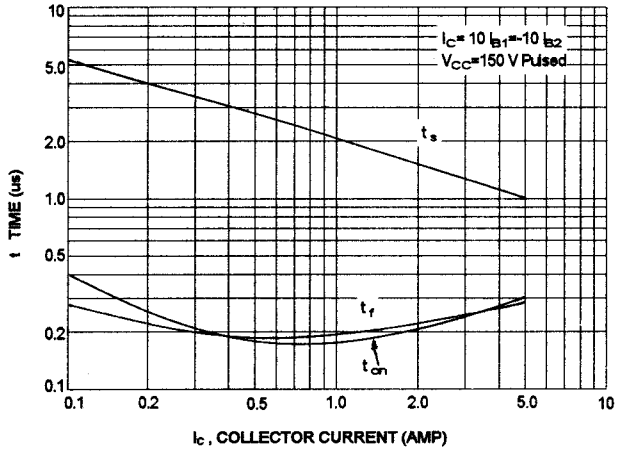
DC CURRENT GAIN



Ic - Vce



SWITCHING TIME



"ON" VOLTAGES