MOSPEC

NPN SILICON POWER TRANSISTORS

...designed for use in TV horizontal deflection output applications

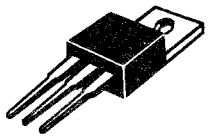
NPN

2SC2233

FEATURES:

* Low Collector-Emitter Saturation Voltage
  $V_{CE(sat)}$= 1.0V(Max) @I_C=4.0A,I_B=0.4A
* DC Current Gain
  hFE= 30-150@I_C= 1.0A
* Larg Collector Current Capability

4.0 AMPERE
SILICON POWER
TRANASISTORS
60 VOLTS
40 WATTS



TO-220

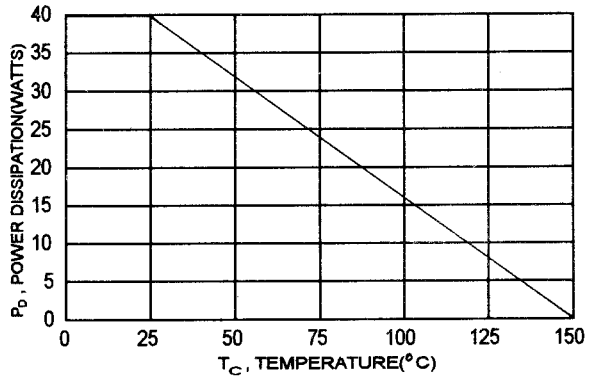
MAXIMUM RATINGS

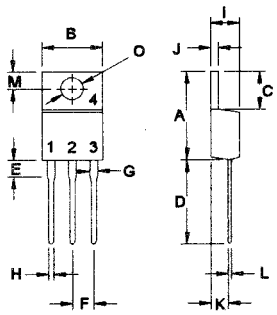
Characteristic	Symbol	2SC2233	Unit
Collector-Emitter Voltage	V_{CEO}	60	V
Collector-Base Voltage	V_{CBO}	200	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous - Peak	I_C I_{CM}	4.0 10	A
Base current	I_B	2.0	A
Total Power Dissipation @T_C = 25°C Derate above 25°C	P_D	40 0.32	W W/°C
Operating 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	3.125	°C/W

FIGURE -1 POWER DERATING





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

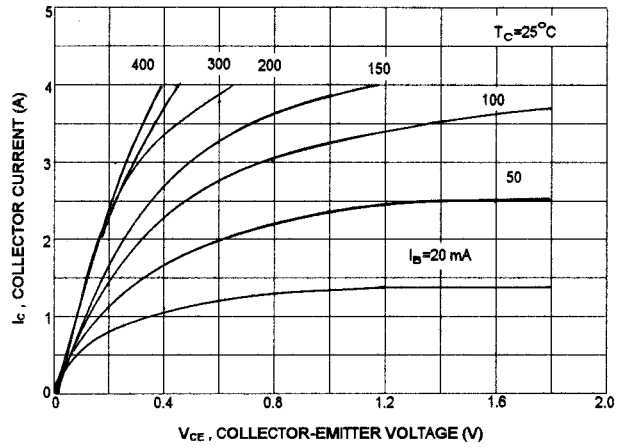
DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

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

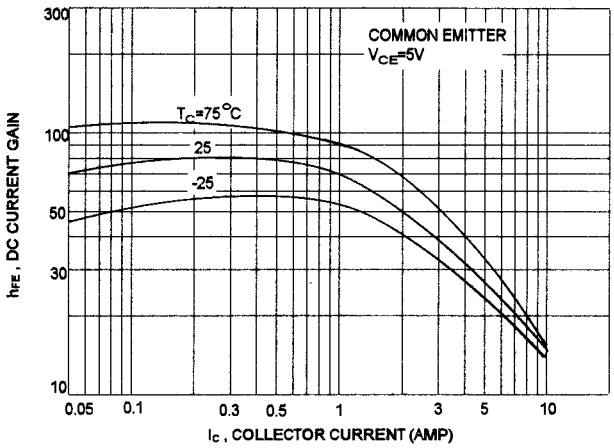
Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Voltage (I_C= 50 mA, I_B= 0)	V_{CEO}	60		V
Emitter-Base Voltage (I_B= 1.0 mA, I_C= 0)	V_{EBO}	5.0		V
Collector Cutoff Current (V_{CB}= 170 V, I_E= 0)	I_{CBO}		10	uA
Emitter Cutoff Current (V_{EB}= 5.0 V, I_C= 0)	I_{EBO}		10	uA
ON CHARACTERISTICS (1)				
DC Current Gain (I_C= 1.0 A,V_{CE}= 5.0 V) (I_C= 4.0 A,V_{CE}= 5.0 V)	hFE	30 20	150	
Collector-Emitter Saturation Voltage (I_C= 4.0 A, I_B= 400 mA)	$V_{CE(sat)}$		1.0	V
Base-Emitter Saturation Voltage (I_C= 4.0 A, I_B= 400 mA)	$V_{BE(sat)}$		1.5	V
DYNAMIC CHARACTERISTICS				
Current-Gain-Bandwidth Product (I_C = 0.5 A, V_{CE} = 5.0 V, f = 1.0 MHz)	f_T	5.0		MHz

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

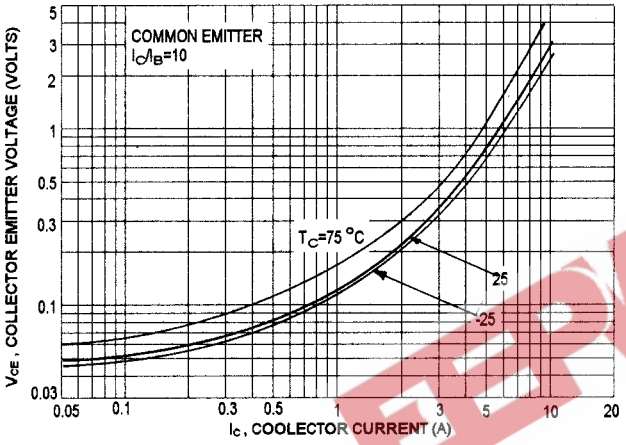
Ic - Vce



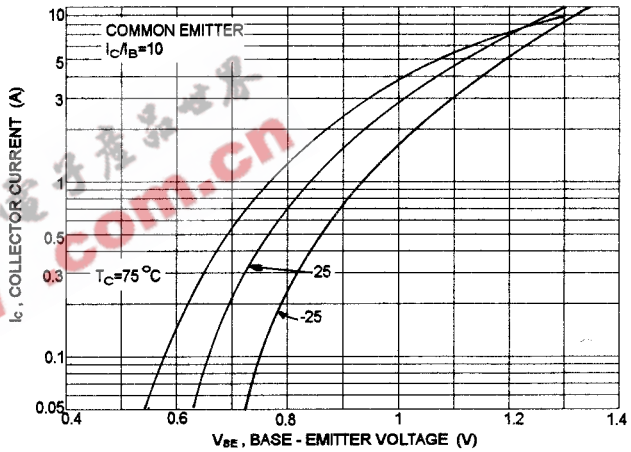
DC CURRENT GAIN



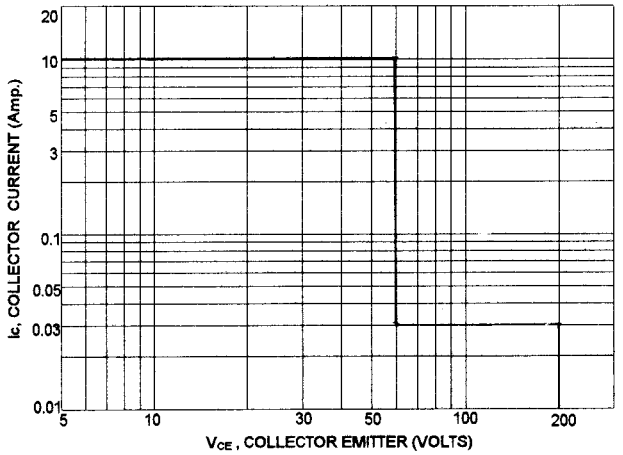
VCE(sat) - Ic



Ic - Vbe



SAFE OPERATING AREA



VCE(sat) - I_B