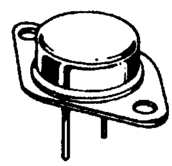
MOSPEC

HIGH POWER NPN SILICON TRANSISTORS

The 2N6259 is power base power transistors designed for high power audio, disk head positioners, linear amplifiers, switching regulators,solenoid drivers,and dc to dc converters or inverters.

NPN
2N6259

16 AMPERE
POWER TRANSISTORS
NPN SILICON
150 VOLTS
150 WATTS



TO-3

FEATURES:

* High Power Dissipation
  P_D = 150 W (T_C = 25°C)
* High DC Current Gain and Low Saturation Voltage
  hFE = 15-60 @ I_C = 8 A , V_{CE} = 2 V
  $V_{CE(SAT)}$ = 1.0 V (Max.) @ I_C = 8 A, I_B = 0.8 A

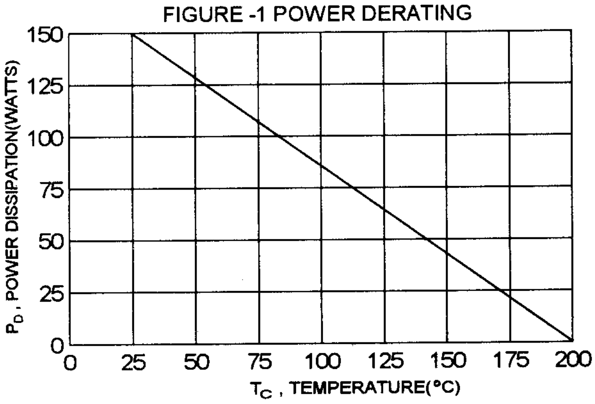
MAXIMUM RATINGS

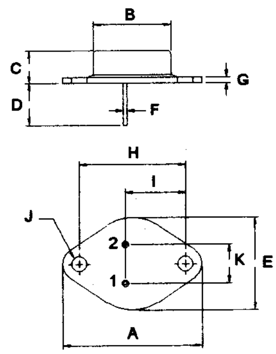
Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	$V_{CEO(SUS)}$	150	V
Collector-Emitter Voltage	V_{CEX}	170	V
Collector-Base Voltage	V_{CBO}	170	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current-Continuous Peak (1)	I_C I_{CM}	16 30	A
Base Current-Continuous Peak (1)	I_B I_{BM}	4.0 15	A
Total Power Dissipation @T_C=25°C Derate above 25°C	P_D	150 0.857	W W/°C
Operating and Storage Junction Temperature Range	T_J ,T_{STG}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.17	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.EMITTER
COLLECTOR(CASE)

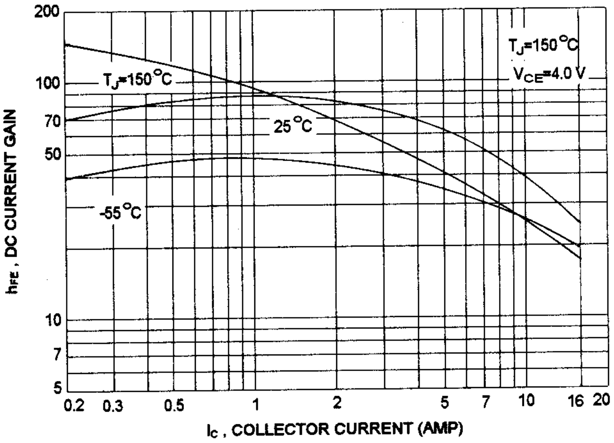
DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18

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

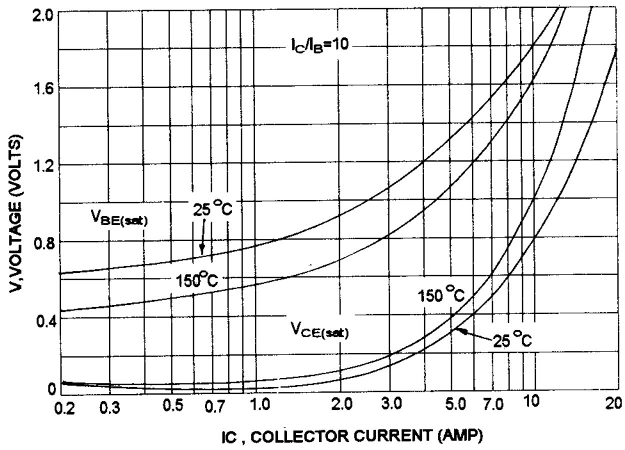
Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector - Emitter Sustaining Voltage (1) (I_C = 100 mA, I_B = 0)	$V_{CEO(SUS)}$	150		V
Collector Cutoff Current (V_{CE} = 130 V, I_B = 0)	I_{CEO}		10	mA
Collector Cutoff Current (V_{CE} = 150 V, $V_{BE(OFF)}$ = 1.5V)	I_{CEX}		2.0	mA
Collector Cutoff Current (V_{CB} = 150 V, I_E = 0)	I_{CBO}		2.0	mA
Emitter Cutoff Current (V_{EB} = 7.0 V, I_C = 0)	I_{EBO}		5.0	mA
ON CHARACTERISTICS (1)				
DC Current Gain (I_C = 8.0 A , V_{CE} = 2.0 V) (I_C = 16 A, V_{CE} = 4.0 V	h_{FE}	 15 10	 60	
Collector - Emitter Saturation Voltage (I_C = 8.0 A , I_B = 800 mA) (I_C = 16 A, I_B = 3.2 A)	$V_{CE(sat)}$		 1.0 2.5	V
Base - Emitter On Voltage (I_C = 8.0 A, V_{CE} = 2.0 V)	$V_{BE(ON)}$		2.0	V

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

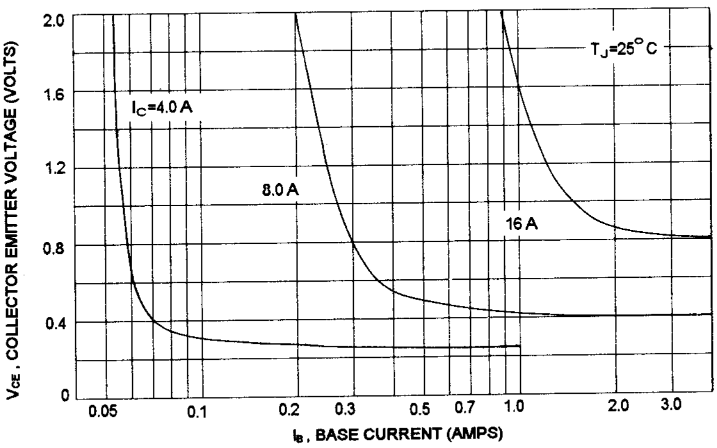
DC CURRENT GAIN



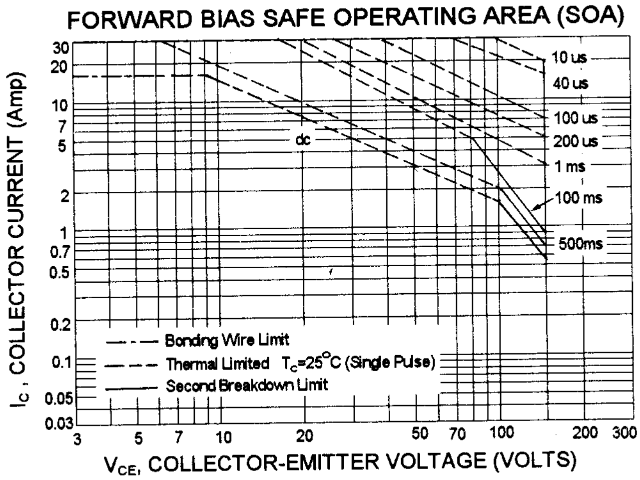
"ON" VOLTAGES



COLLECTOR SATURATION REGION



FORWARD BIAS SAFE OPERATING AREA (SOA)



There are two limitation on the power handling ability of a transistor:average junction temperature and second breakdown safe operating area curves indicate I_C-V_{CE} limits of the transistor that must be observed for reliable operation i.e., the transistor must not be subjected to greater dissipation than curves indicate.

The data of SOA curve is base on $T_{J(PK)}$=200 °C;T_C is variable depending on conditions. second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(PK)}\leq$200°C, At high case temperatures, thermal limita- tion will reduce the power that can be handled to values less than the limitations imposed by second breakdown.