MOSPEC

NPN Silicon Power Transistors

D PAK Surface Mount Power Package

The D PAK Power transistor is used by general purpose amplifiers ,relay drives, lamp drives, motor drivers, and high speed switching applications.

Features:
* 150 °C operation junction Temperature
* Short Heat Sink Tab Manufactured- Not Sheared!
* Similar in Size to the Industry Standard TO-251 package

Mechanical Characteristic
* Case:Epoxy, Molded
* Weight: 0.295 grams (approximately)
* Finish : All External Surface Corrosion Resistant and Teminal

NPN

2SC5706

5 AMPERE
NPN SILICON
POWER TRANSISTOR

50 VOLTS
15 WATTS

TO-252AA (DPAK)

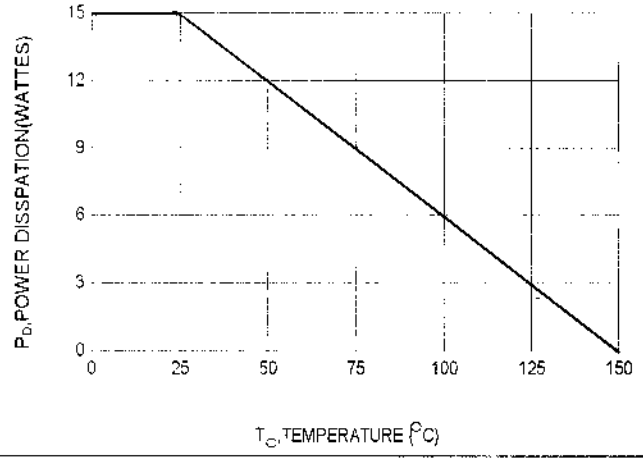
MAXIMUM RATINGS

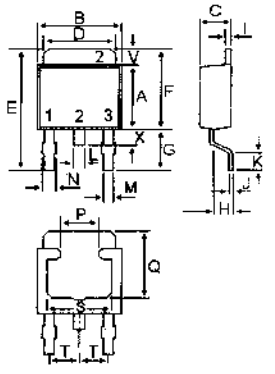
Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEO}	50	V
Collector-Base Voltage	V_{CBO}	80	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Collector Current-Continuous	I_C	5.0	A
Base Current	I_B	1.2	A
Total Power Dissipation @ T_C=25°C Derate above 25 °C	P_D	15 0.12	W W/°C
Operating and Storage Junction Temperature Range	T_J , T_{stg}	- 65 to + 150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθ jc	8.04	°C/W

FIGURE -1 POWER DERATING





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

DIM	MILLMETERS	
	MIN	MAX
A	5.40	5.60
B	6.30	6.70
C	2.20	2.40
D	5.20	5.50
E	9.00	10.00
G	2.40	3.00
H	0.90	1.50
I	0.45	0.55
J	0.45	0.60
K	0.90	1.50
L	0.70	0.80
M	0.50	0.70
N	0.60	0.90
P	2.70	3.10
Q	5.10	5.30
S	4.80	5.00
T	-----	2.30
V	1.20	1.40
X	0.80	1.20

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

Characteristic	Symbol	Min	typ	Max	Unit
OFF CHARACTERISTICS (1)					
Collector - Emitter Breakdown Voltage (I_C = 1 mA, I_B = 0)	$V_{CEO(BR)}$	50			V
Collector - Base Breakdown Voltage (I_C = 10 uA, I_E = 0)	$V_{CBO(BR)}$	80			V
Collector Cutoff Current (V_{CB} = 40 V, I_E = 0)	I_{CBO}			1.0	uA
Emitter Cutoff Current (V_{EB} = 4.0 V, I_c = 0)	I_{EBO}			1.0	uA
ON CHARACTERISTICS					
DC Current Gain (I_C = 500 m A, V_{CE} = 2.0 V)	hFE	200		560	
Collector - Emitter Saturation Voltage (I_C = 1.0 A, I_B = 50 mA) (I_C = 2.0 A, I_B = 100 mA)	$V_{CE(SAT)}$			135 240	mV
Base - Emitter Saturation Voltage (I_C = 2.0 A, I_B = 100 mA)	$V_{BE(SAT)}$			1.2	V
DYNAMIC CHARACTERISTICS					
Gain-Bandwidth Product (I_C = 500mA, V_{CE} = 10 V)	f_T		400		
Output Capacitance (V_{CB} = 10 V, I_E = 0 , f = 1 MHz)	Cob		20		pF

(1) Pulse Tese: Pulse Width = 300 us, Duty Cycle ≤2.0%