SOLID STATE INC.
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HIGH-VOLTAGE POWER NPN SILICON TRANSISTORS

... designed for use in high-voltage, high-speed, power switching regulators, converter, converter, inverter, motor control system application.

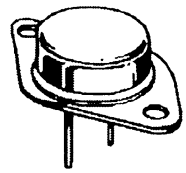
FEATURES:
* Collector-Emitter Sustaining Voltage-
  $V_{CEO(sus)}$ =300 V (Min)
* Collector-Emitter Saturation Voltage-
  $V_{CE(sat)}$=2.5 V (Max.) @ I_C=2.0 A
*DC Current gain hfe=20 (Min.) I_C=2.0A

NPN
2N5240

5 AMPERES

POWER TRANSISTOR
NPN SILICON

300 VOLTS
100 WATTS



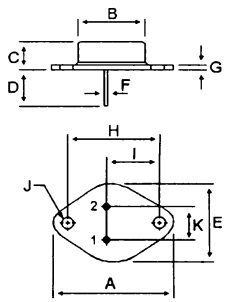
TO-3

MAXIMUM RATINGS

Rating	Symbol	2N5240	Unit
Collector-Base Voltage	V_{CB}	375	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EB}	6.0	V
Collector Current-Continuous Peak	I_C	5	A
Base Current	I_B	2	A
Total Device Dissipation @ T_C=25°C Derate above 25°C	P_D	100 0.57	Watts W/°C
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +200	°C

THERMAL CHARACTERISTICS

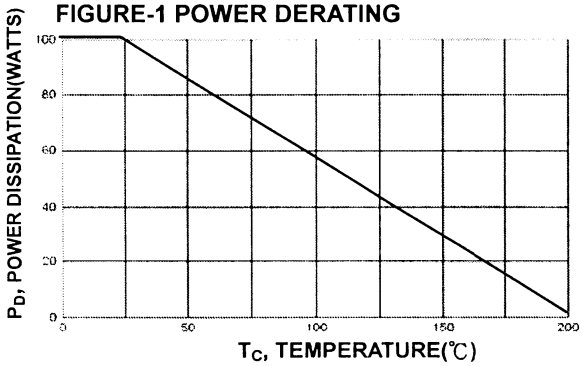
Characteristic	Symbol	Max	Unit
Thermal Resistance, junction to Case	$R_{\theta JC}$	1.75	°C/W



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

FIGURE-1 POWER DERATING



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

Characteristic	Symbol	Min.	Typ.	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage (I_C = 0.20Adc, I_B = 0)	$V_{CEO(sus)}$	300	--	--	V
Base-Emitter Breakdown Voltage (I_E = 0.02Adc, I_C = 0)	V_{EBO}	6	--	--	V
Collector Current (V_{CE} = 200 Vdc, I_B = 0)	I_{CEO}	--	--	2	mAdc
Emitter Cutoff Current (V_{BE}= 6.0 Vdc, I_c = 0)	I_{EBO}	--	--	5	mAdc
ON CHARACTERISTICS(1)					
DC current gain (I_C = 0.4 Adc, V_{CE} = 10.0 Vdc) (I_C = 2.0 Adc, V_{CE} = 10.0 Vdc) (I_C = 4.5Adc, V_{CE} = 10.0 Vdc)	h_{FE}	 20 20 5	 -- -- --	 80 80 --	
Collector-Emitter Saturation Voltage (I_C = 2.0 Adc, I_B = 0.25 Adc) (I_C = 4.5 Adc, I_B = 1.125 Adc)	$V_{CE(sat)}$	 -- --	 -- --	 2.5 5.0	Vdc
Base-Emitter Saturation Voltage (I_C = 20 Adc, I_B = 2.0 Adc) (I_C = 50 Adc, I_B = 10 Adc)	$V_{BE(sat)}$	 -- --	 -- --	 1.8 3.5	Vdc
Base-Emitter On Voltage (I_C = 2.0 Adc, V_{CE} = 10.0 Vdc)	$V_{BE(on)}$	--	--	3.0	Vdc
DYNAMIC CHARACTERISTICS					
Current-Gain—Bandwidth Product (I_C = 0.2 Adc, V_{CE} = 10 Vdc , f=10 MHz))	f_T	2	--	--	MHz
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0 , f=0.1 MHz)	C_{ob}	--	--	250	pF

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