



SOLID STATE INC.

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www.solidstateinc.com

Silicon NPN Power Transistor

2N5240

DESCRIPTION

- High Voltage-
: $V_{CEO(SUS)} = 300V(\text{Min})$
- Wide Area of Safe Operation

APPLICATIONS

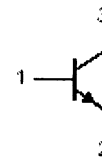
- Designed for use in series regulators, power amplifiers, inverters, deflection circuits, switching regulators, and high-voltage bridge amplifiers.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

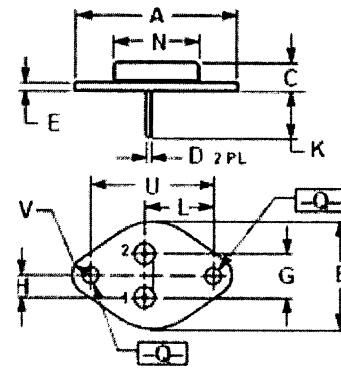
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	375	V
$V_{CER(SUS)}$	Collector-Emitter Voltage $R_{BE} \leq 50 \Omega$	350	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	5	A
I_B	Base Current	2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	100	W
T_J	Junction Temperature	200	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.75	$^\circ\text{C/W}$



PIN
1. BASE
2. EMITTER
3. COLLECTOR (CASE)
TO-3 package



DIM	mm	
	MIN	MAX
A		39.00
B	25.30	26.67
C	7.60	8.30
D	0.90	1.10
E	1.40	1.60
G		10.92
H		5.46
K	11.40	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

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ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 0.2A; I_B = 0$	300			V
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 0.2A; R_{BE} \leq 50 \Omega$	350			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 0.02A; I_C = 0$	6			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 2A; I_B = 0.25A$			2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 4.5A; I_B = 1.125A$			5.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 2A; V_{CE} = 10V$			3.0	V
I_{CEV}	Collector Cutoff Current	$V_{CE}=375V; V_{BE} = -1.5V$ $V_{CE}=300V; V_{BE} = -1.5V; T_C = 150^{\circ}\text{C}$			2 3	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = 200V; I_B = 0$			2	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 6V; I_C = 0$			5	mA
h_{FE-1}	DC Current Gain	$I_C = 0.4A; V_{CE} = 10V$	20		80	
h_{FE-2}	DC Current Gain	$I_C = 2A; V_{CE} = 10V$	20		80	
h_{FE-3}	DC Current Gain	$I_C = 4.5A; V_{CE} = 10V$	5			
f_T	Current-Gain—Bandwidth Product	$I_C = 0.2A; V_{CE} = 10V$	2			MHz
C_{OB}	Output Capacitance	$I_E = 0; V_{CB} = 10V; f_{test} = 1.0\text{MHz}$			250	pF