



Silicon NPN Power Transistor

2N5240

DESCRIPTION

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

APPLICATIONS

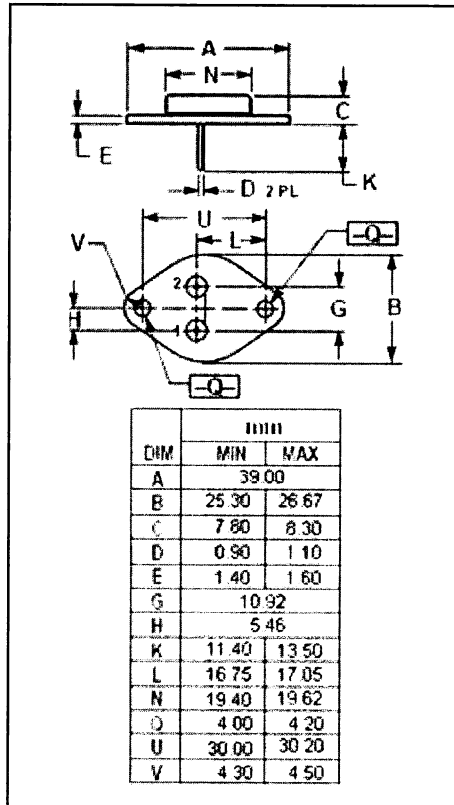
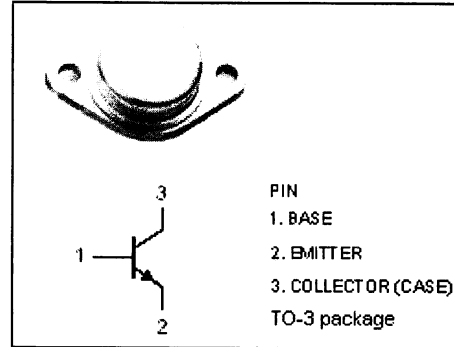
- Designed for use in series regulators, power amplifiers, inverters, deflection circuits, switching regulators, and high-voltage bridge amplifiers.

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	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

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