

NPN Power Silicon Transistor

2N5240



Features

- High Voltage: $V_{ce(sus)} = 300 \text{ V (min)}$
- Wide Area of Safe Operation
- Designed for use in series regulators, power amplifiers, inverters, deflection circuits, switching regulators, and high-voltage bridge amplifiers.
- TO-3 (TO-204AA) Package



Maximum Ratings ($T_A = 25^\circ\text{C}$)

Ratings	Symbol	Value	Units
Collector - Base Voltage	V_{CBO}	375	Vdc
Collector - Emitter Voltage ($R_{BE} < 50 \Omega$)	$V_{CER(sus)}$	350	Vdc
Collector - Emitter Voltage	$V_{CE0(sus)}$	300	Vdc
Emitter - Base Voltage	V_{EBO}	6.0	Vdc
Collector Current - Continuous	I_C	5	Adc
Base Current	I_B	2	Adc
Collector Power Dissipation	P_C	100	W
Junction Temperature	T_J	+200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

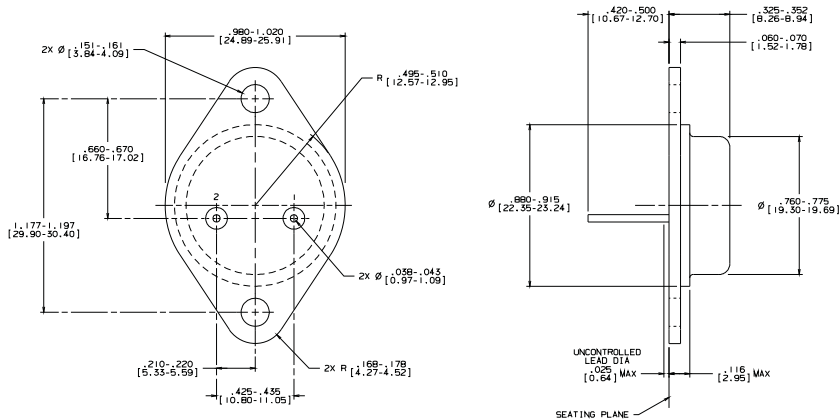
Electrical Characteristics

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

Symbol	Parameter	Conditions	Minimum	Typical	Maximum	Units
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 0.2 \text{ A}; I_B = 0$	300	--	--	V
$V_{CEO(SUS)}$	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	$V_{BE} = 375 \text{ V}; V_{BE} = -1.5 \text{ V}$ $V_{BE} = 300 \text{ V}; V_{BE} = -1.5 \text{ V}; T_C = 150^\circ\text{C}$	--	--	2 3	mA
I_{CEO}	Collector Cutoff Current	$V_{BE} = 200 \text{ V}; I_B = 0$	--	--	2	mA
I_{ESO}	Emitter Cutoff Current	$V_{BE} = 6 \text{ V}; I_C = 0$	--	--	5	mA
$I_{S/B}$	Forward Bias, Second Breakdown Collector Current	$t_p = 1 \text{ sec}, V_{CE} = 100 \text{ Vdc}$	80	--	--	A
h_{fe}	AC Forward Current Transfer Ratio	$F = 1 \text{ KHz}; V_{CE} = 10 \text{ Vdc}, I_C = 0.4 \text{ A}$	20	--	--	
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



Outline Drawing



- NOTES:
1. STANDARD HEADER TYPE SOLID BASE.
 2. STANDARD LEAD FINISH PER MIL-M-38510 TYPE X OR EQUIVALENT.
 3. LEAD NOT BENT GREATER THAN 15°.
 4. DIMENSIONS BASED ON JEDEC STANDARD TO-3 PUBLICATION 95, PA

Aeroflex / Metelics, Inc.

975 Stewart Drive,
Sunnyvale, CA 94085
Tel: (408) 737-8181
Fax: (408) 733-7645

Sales: 888-641-SEMI (7364)

Hi-Rel Components

9 Hampshire Street,
Lawrence, MA 01840
Tel: (603) 641-3800
Fax: (978) 683-3264

www.aeroflex.com/metelics-hirelcomponents

www.aeroflex.com/metelics metelics-sales@aeroflex.com

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