

PNP POWER SILICON SWITCHING TRANSISTOR

Qualified per MIL-PRF-19500/612

DEVICES

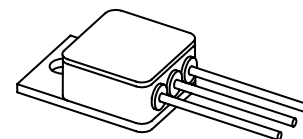
2N7372

LEVELS

JAN
JANTX
JANTXV
JANS

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	80	Vdc
Collector-Base Voltage	V_{CBO}	100	Vdc
Emitter-Base Voltage	V_{EBO}	5.5	Vdc
Collector Current	I_C	5.0	Adc
Total Power Dissipation @ $T_A = +25^\circ\text{C}$ ⁽¹⁾ @ $T_C = +25^\circ\text{C}$ ⁽²⁾	P_T	4.0 58	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	3	$^\circ\text{C/W}$



TO-254AA

PIN 1 = BASE
PIN 2 = COLLECTOR
PIN 3 = EMITTER

- 1) Derate linearly 22.8mW/ $^\circ\text{C}$ for $T_A > 25^\circ\text{C}$
- 2) Derate linearly 331mW/ $^\circ\text{C}$ for $T_C > 25^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage $I_C = 100\text{mA}$	$V_{(BR)CEO}$	80		Vdc
Collector-Emitter Cutoff Current $V_{CE} = 60\text{Vdc}, V_{BE} = 0\text{Vdc}$ $V_{CE} = 100\text{Vdc}, V_{BE} = 0\text{Vdc}$	I_{CES1} I_{CES2}		1.0 1.0	μAdc mAdc
Collector-Emitter Cutoff Current $V_{CE} = 40\text{Vdc}, I_B = 0$	I_{CEO}		50	μAdc
Emitter-Base Cutoff Current $V_{EB} = 4.0\text{Vdc}$ $V_{EB} = 5.5\text{Vdc}$	I_{EBO1} I_{EBO2}		1.0 1.0	μAdc mAdc



6 Lake Street, Lawrence, MA 01841
1-800-446-1158 / (978) 620-2600 / Fax: (978) 689-0803
Website: <http://www.microsemi.com>

TECHNICAL DATA SHEET

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ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted) (CONT.)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽³⁾				
Forward-Current Transfer Ratio $I_C = 0.05\text{A}_{dc}$, $V_{CE} = 5.0\text{V}_{dc}$ $I_C = 2.5\text{A}_{dc}$, $V_{CE} = 5.0\text{V}_{dc}$ $I_C = 5.0\text{A}_{dc}$, $V_{CE} = 5.0\text{V}_{dc}$	h_{FE1} h_{FE2} h_{FE3}	50 70 40	--- 200 ---	
Base-Emitter Non-Saturated Voltage $V_{CE} = 5.0\text{V}_{dc}$, $I_C = 2.5\text{A}_{dc}$	V_{BE}		1.45	Vdc
Base-Emitter Saturation Voltage $I_C = 2.5\text{A}_{dc}$, $I_B = 0.25\text{A}_{dc}$ $I_C = 5.0\text{A}_{dc}$, $I_B = 0.5\text{A}_{dc}$	$V_{BE(sat)1}$ $V_{BE(sat)2}$		1.45 2.2	Vdc
Collector-Emitter Saturation Voltage $I_C = 2.5\text{A}_{dc}$, $I_B = 0.25\text{A}_{dc}$ $I_C = 5.0\text{A}_{dc}$, $I_B = 0.5\text{A}_{dc}$	$V_{CE(sat)1}$ $V_{CE(sat)2}$		0.75 1.5	Vdc

DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Common Emitter Small Signal, Short Circuit Forward Current Transfer Ratio $V_{CE} = 5\text{V}_{dc}$, $I_C = 100\text{mA}_{dc}$, $f = 1\text{kHz}$	h_{fe}	50		
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 0.5\text{A}_{dc}$, $V_{CE} = 5\text{V}_{dc}$, $f = 10\text{MHz}$	$ h_{fe} $	7.0		
Output Capacitance $V_{CB} = 10\text{V}_{dc}$, $I_E = 0$, $100\text{kHz} \leq f \leq 1.0\text{MHz}$	C_{obo}		250	pF

SAFE OPERATING AREA

DC Tests

$T_C = +25^\circ\text{C}$, 1 Cycle, $t = 1\text{s}$

Test 1

$V_{CE} = 12\text{V}_{dc}$, $I_C = 5.0\text{A}_{dc}$

Test 2

$V_{CE} = 32\text{V}_{dc}$, $I_C = 1.5\text{A}_{dc}$

Test 3

$V_{CE} = 80\text{V}_{dc}$, $I_C = 100\text{mA}_{dc}$

(3) Pulse Test: Pulse Width = $300\mu\text{s}$, Duty Cycle $\leq 2.0\%$