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[Http://www.100y.com.tw](http://www.100y.com.tw)

TECHNICAL DATA

PNP MEDIUM POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/561

Devices

2N6193

Qualified Level

JAN, JANTX
JANTXV

MAXIMUM RATINGS

Ratings	Symbol	2N6193	Units
Collector-Emitter Voltage	V_{CEO}	100	Vdc
Collector-Base Voltage	V_{CBO}	100	Vdc
Emitter-Base Voltage	V_{EBO}	6.0	Vdc
Collector Current	I_C	5.0	Adc
Base Current	I_B	1.0	Adc
Total Power Dissipation @ $T_A = +25^{\circ}\text{C}^{(1)}$	P_T	1.0	W
@ $T_C = +25^{\circ}\text{C}^{(2)}$		10	W
Operating & Storage Temperature Range	T_{op}, T_{stg}	-65 to +200	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	17.5	$^{\circ}\text{C/W}$

1) Derate linearly 5.71mW/ $^{\circ}\text{C}$ for $T_A > +25^{\circ}\text{C}$

2) Derate linearly 57.1mW/ $^{\circ}\text{C}$ for $T_C > +25^{\circ}\text{C}$



TO-39*
(TO-205AD)

*See appendix A for
package outline

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

Characteristics	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Collector-Emitter Sustaining Voltage $I_C = 50 \text{ mAdc}$	$V_{CEO(sus)}$	100		Vdc
Collector-Emitter Cutoff Current $V_{CE} = 100 \text{ Vdc}$	I_{CEO}		100	μAdc
Emitter-Base Cutoff Current $V_{EB} = 6.0 \text{ Vdc}$	I_{EBO}		100	μAdc
Collector-Emitter Cutoff Current $V_{CE} = 90 \text{ Vdc}, V_{BE} = 1.5 \text{ Vdc}$	I_{CEX}		10	μAdc
Collector-Base Cutoff Current $V_{CB} = 100 \text{ Vdc}$	I_{CBO}		10	μAdc

2N6193 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽³⁾				
DC Current Gain $I_C = 0.5 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$ $I_C = 2.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$ $I_C = 5.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$	h_{FE}	60 60 40	240	
Collector-Emitter Saturation Voltage $I_C = 2.0 \text{ Adc}, I_B = 0.2 \text{ Adc}$ $I_C = 5.0 \text{ Adc}, I_B = 0.5 \text{ Adc}$	$V_{CE(sat)}$		0.7 1.2	Vdc
Base-Emitter Saturation Voltage $I_C = 2.0 \text{ Adc}, I_B = 0.2 \text{ Adc}$ $I_C = 5.0 \text{ Adc}, I_B = 0.5 \text{ Adc}$	$V_{BE(sat)}$		1.2 1.8	Vdc

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short Circuit Forward-Current Transfer Ratio $I_C = 0.5 \text{ Adc}, V_{CE} = 10 \text{ Vdc}, f = 10 \text{ MHz}$	$ h_{fe} $	3.0	15	
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{obo}		300	pF
Output Capacitance $V_{BE} = 2.0 \text{ Vdc}, I_C = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	C_{ibo}		1250	pF

SWITCHING CHARACTERISTICS

Delay Time	$V_{CC} = -40 \text{ Vdc}, V_{BE(off)} = 3.0 \text{ Vdc}$	t_d		100	ns
Rise Time	$I_C = 2.0 \text{ Adc}, I_{B1} = 0.2 \text{ Adc}$	t_r		100	ns
Storage Time	$V_{CC} = -40 \text{ Vdc}, I_C = 2.0 \text{ Adc},$	t_s		2.0	μs
Fall Time	$I_{B1} = -I_{B2} = 0.2 \text{ Adc}$	t_f		200	ns

SAFE OPERATING AREA

DC Tests					
$T_C = +25^\circ\text{C}, 1 \text{ Cycle}, t \geq 0.5 \text{ s}$					
Test 1					
$V_{CE} = 2.0 \text{ Vdc}, I_C = 5.0 \text{ Adc}$					
Test 2					
$V_{CE} = 90 \text{ Vdc}, I_C = 55 \text{ mAdc}$					

(3) Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.

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