

## NPN SILICON DUAL TRANSISTOR

Qualified per MIL-PRF-19500/495

### Devices

2N5793

2N5794  
2N5794U

### Qualified Level

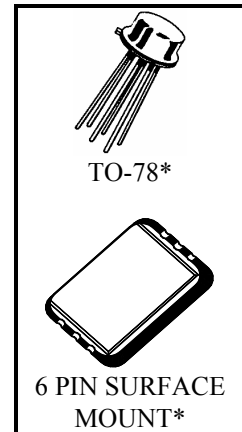
JAN  
JANTX  
JANTXV

### MAXIMUM RATINGS

Ratings	Symbol	Value		Units
Collector-Emitter Voltage	$V_{CEO}$	40		Vdc
Collector-Base Voltage	$V_{CBO}$	75		Vdc
Emitter-Base Voltage	$V_{EBO}$	6.0		Vdc
Collector Current	$I_C$	600		mAdc
		One Section <sup>(1)</sup>	Total Device <sup>(2)</sup>	
Total Power Dissipation @ $T_A = +25^{\circ}\text{C}$	$P_T$	0.5	0.6	W
Operating & Storage Junction Temperature Range	$T_{op}, T_{stg}$	-65 to +200		$^{\circ}\text{C}$

1) Derate linearly 2.86 mW/ $^{\circ}\text{C}$  for  $T_A > +25^{\circ}\text{C}$

2) Derate linearly 3.43 mW/ $^{\circ}\text{C}$  for  $T_A > +25^{\circ}\text{C}$



\*See MILPRF19500/495 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 Breakdown Current $I_C = 10 \text{ mAdc}$	$V_{(BR)CEO}$	40		Vdc
Collector-Base Cutoff Current $V_{CB} = 75 \text{ Vdc}$ $V_{CB} = 50 \text{ Vdc}$	$I_{CBO}$		10 10	$\mu\text{Adc}$ $\eta\text{Adc}$
Emitter-Base Cutoff Current $V_{EB} = 6.0 \text{ Vdc}$ $V_{EB} = 4.0 \text{ Vdc}$	$I_{EBO}$		10 10	$\mu\text{Adc}$ $\eta\text{Adc}$

**ELECTRICAL CHARACTERISTICS (con't)**

Characteristics	Symbol	Min.	Max.	Unit
<b>ON CHARACTERISTICS (3)</b>				
Forward-Current Transfer Ratio I <sub>C</sub> = 100 μAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 1.0 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 10 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 150 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 300 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 150 mAdc, V <sub>CE</sub> = 1.0 Vdc	2N5793	h <sub>FE</sub>	20 25 35 40 25 20	120
I <sub>C</sub> = 100 μAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 1.0 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 10 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 150 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 300 mAdc, V <sub>CE</sub> = 10 Vdc I <sub>C</sub> = 150 mAdc, V <sub>CE</sub> = 1.0 Vdc	2N5794 2N5794U	h <sub>FE</sub>	35 50 75 100 40 50	300
Collector-Emitter Saturation Voltage I <sub>C</sub> = 150 mAdc, I <sub>B</sub> = 15 mAdc I <sub>C</sub> = 300 mAdc, I <sub>B</sub> = 30 mAdc	V <sub>CE(sat)</sub>		0.3 0.9	Vdc
Base-Emitter Saturation Voltage I <sub>C</sub> = 150 mAdc, I <sub>B</sub> = 15 mAdc I <sub>C</sub> = 300 mAdc, I <sub>B</sub> = 30 mAdc	V <sub>BE(sat)</sub>	0.6	1.2 1.8	Vdc

**DYNAMIC CHARACTERISTICS**

Forward Current Transfer Ratio, Magnitude I <sub>C</sub> = 20 mAdc, V <sub>CE</sub> = 20 Vdc, f = 100 MHz	h <sub>fe</sub>	2.0	10	
Output Capacitance V <sub>CB</sub> = 10 Vdc, I <sub>E</sub> = 0, 100 kHz ≤ f ≤ 1.0 MHz	C <sub>obo</sub>		8.0	pF
Input Capacitance V <sub>EB</sub> = 0.5 Vdc, I <sub>C</sub> = 0, 100 kHz ≤ f ≤ 1.0 MHz	C <sub>ibo</sub>		33	pF

**SWITCHING CHARACTERISTICS**

Turn-On Time V <sub>CC</sub> = 30 Vdc; I <sub>C</sub> = 150 mAdc; I <sub>B1</sub> = 15 mAdc, V <sub>BE(off)</sub> = 0.5 Vdc	t <sub>on</sub>		45	ns
Turn-Off Time V <sub>CC</sub> = 30 Vdc; I <sub>C</sub> = 150 mAdc; I <sub>B1</sub> = I <sub>B2</sub> = 15 mAdc	t <sub>off</sub>		310	ns

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