

## NPN SILICON DUAL TRANSISTOR

Qualified per MIL-PRF-19500/495

### Devices

2N5793

2N5794  
2N5794U

### Qualified Level

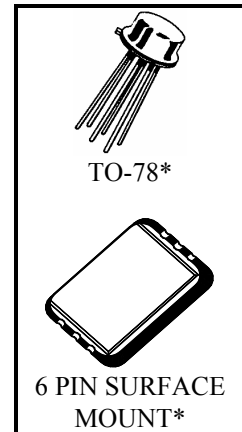
JAN  
JANTX  
JANTXV

### 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	$\mu\text{Adc}$ $\eta\text{Adc}$

2N5793, 2N5794 JAN SERIES

**ELECTRICAL CHARACTERISTICS (con't)**

Characteristics	Symbol	Min.	Max.	Unit	
<b>ON CHARACTERISTICS (3)</b>					
Forward-Current Transfer Ratio $I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 1.0 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 10 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 300 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 1.0 \text{ V dc}$  $I_C = 100 \mu\text{A dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 1.0 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 10 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 300 \text{ mA dc}, V_{CE} = 10 \text{ V dc}$ $I_C = 150 \text{ mA dc}, V_{CE} = 1.0 \text{ V dc}$	2N5793        2N5794 2N5794U	$h_{FE}$        $h_{FE}$	20 25 35 40 25 20  35 50 75 100 40 50	120       300	
Collector-Emitter Saturation Voltage $I_C = 150 \text{ mA dc}, I_B = 15 \text{ mA dc}$ $I_C = 300 \text{ mA dc}, I_B = 30 \text{ mA dc}$	$V_{CE(sat)}$		0.3 0.9	Vdc	
Base-Emitter Saturation Voltage $I_C = 150 \text{ mA dc}, I_B = 15 \text{ mA dc}$ $I_C = 300 \text{ mA dc}, I_B = 30 \text{ mA dc}$	$V_{BE(sat)}$	0.6	1.2 1.8	Vdc	

**DYNAMIC CHARACTERISTICS**

Forward Current Transfer Ratio, Magnitude $I_C = 20 \text{ mA dc}, V_{CE} = 20 \text{ V dc}, f = 100 \text{ MHz}$	$ h_{fe} $	2.0	10	
Output Capacitance $V_{CB} = 10 \text{ V dc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	$C_{obo}$		8.0	pF
Input Capacitance $V_{EB} = 0.5 \text{ V dc}, I_C = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	$C_{ibo}$		33	pF

**SWITCHING CHARACTERISTICS**

Turn-On Time $V_{CC} = 30 \text{ V dc}; I_C = 150 \text{ mA dc}; I_{B1} = 15 \text{ mA dc}, V_{BE(off)} = 0.5 \text{ V dc}$	$t_{on}$		45	ns
Turn-Off Time $V_{CC} = 30 \text{ V dc}; I_C = 150 \text{ mA dc}; I_{B1} = I_{B2} = 15 \text{ mA dc}$	$t_{off}$		310	ns

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