

NPN SILICON DUAL TRANSISTOR

Qualified per MIL-PRF-19500/495

Devices

2N5793

2N5794
2N5794U

Qualified Level

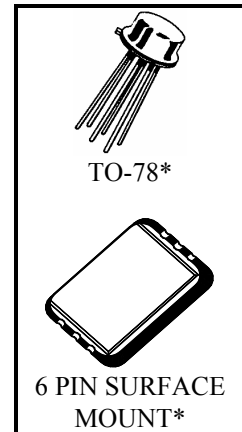
JAN
JANTX
JANTXV

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 ⁽¹⁾	Total Device ⁽²⁾	
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	μAdc ηAdc
Emitter-Base Cutoff Current $V_{EB} = 6.0 \text{ Vdc}$ $V_{EB} = 4.0 \text{ Vdc}$	I_{EBO}		10 10	μAdc ηAdc

2N5793, 2N5794 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS (3)				
Forward-Current Transfer Ratio $I_C = 100\ \mu\text{A}_{dc}, V_{CE} = 10\ \text{V}_{dc}$ $I_C = 1.0\ \text{mA}_{dc}, V_{CE} = 10\ \text{V}_{dc}$ $I_C = 10\ \text{mA}_{dc}, V_{CE} = 10\ \text{V}_{dc}$ $I_C = 150\ \text{mA}_{dc}, V_{CE} = 10\ \text{V}_{dc}$ $I_C = 300\ \text{mA}_{dc}, V_{CE} = 10\ \text{V}_{dc}$ $I_C = 150\ \text{mA}_{dc}, V_{CE} = 1.0\ \text{V}_{dc}$	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	ηs
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	ηs

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