Microsemi LAWRENCE

TECHNICAL DATA

NPN SILICON DUAL TRANSISTOR

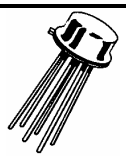
Qualified per MIL-PRF-19500/495

Devices		*Qualified Level*
2N5793	**2N5794** **2N5794U**	**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 @ $T_A = +25^0C$	P_T	0.5	0.6	W
Operating & Storage Junction Temperature Range	T_{op}, T_{stg}	-65 to +200		^0C

1) Derate linearly 2.86 mW/^{0}C for $T_A > +25^0C$
2) Derate linearly 3.43 mW/^{0}C for $T_A > +25^0C$



TO-78*



6 PIN SURFACE MOUNT*

*See MILPRF19500/495 for package outline

ELECTRICAL CHARACTERISTICS ($T_A = 25^0C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Current I_C = 10 mAdc	$V_{(BR)CEO}$	40		Vdc
Collector-Base Cutoff Current V_{CB} = 75 Vdc V_{CB} = 50 Vdc	I_{CBO}		10 10	µAdc ηAdc
Emitter-Base Cutoff Current V_{EB} = 6.0 Vdc V_{EB} = 4.0 Vdc	I_{EBO}		10 10	µAdc ηAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
ON CHARACTERISTICS (3)					
Forward-Current Transfer Ratio					
I_C = 100 µAdc, V_{CE} = 10 Vdc	2N5793	h_{FE}	20	120	
I_C = 1.0 mAdc, V_{CE} = 10 Vdc			25		
I_C = 10 mAdc, V_{CE} = 10 Vdc			35		
I_C = 150 mAdc, V_{CE} = 10 Vdc			40		
I_C = 300 mAdc, V_{CE} = 10 Vdc			25		
I_C = 150 mAdc, V_{CE} = 1.0 Vdc			20		
I_C = 100 µAdc, V_{CE} = 10 Vdc	2N5794	h_{FE}	35	300	
I_C = 1.0 mAdc, V_{CE} = 10 Vdc	2N5794U		50		
I_C = 10 mAdc, V_{CE} = 10 Vdc			75		
I_C = 150 mAdc, V_{CE} = 10 Vdc			100		
I_C = 300 mAdc, V_{CE} = 10 Vdc			40		
I_C = 150 mAdc, V_{CE} = 1.0 Vdc			50		
Collector-Emitter Saturation Voltage					
I_C = 150 mAdc, I_B = 15 mAdc		$V_{CE(sat)}$		0.3	Vdc
I_C = 300 mAdc, I_B = 30 mAdc				0.9	
Base-Emitter Saturation Voltage					
I_C = 150 mAdc, I_B = 15 mAdc		$V_{BE(sat)}$	0.6	1.2	Vdc
I_C = 300 mAdc, I_B = 30 mAdc				1.8	
DYNAMIC CHARACTERISTICS					
Forward Current Transfer Ratio, Magnitude					
I_C = 20 mAdc, V_{CE} = 20 Vdc, f = 100 MHz		$\lvert h_{fe} \rvert$	2.0	10	
Output Capacitance					
V_{CB} = 10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz		C_{obo}		8.0	pF
Input Capacitance					
V_{EB} = 0.5 Vdc, I_C = 0, 100 kHz ≤ f ≤ 1.0 MHz		C_{ibo}		33	pF
SWITCHING CHARACTERISTICS					
Turn-On Time					
V_{CC} = 30 Vdc; I_C = 150 mAdc; I_{B1} = 15 mAdc, $V_{BE(off)}$ = 0.5 Vdc		t_{on}		45	ηs
Turn-Off Time					
V_{CC} = 30 Vdc; I_C = 150 mAdc; I_{B1} = I_{B2} = 15 mAdc		t_{off}		310	ηs

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