Microsemi LAWRENCE

TECHNICAL DATA

PNP SILICON SMALL SIGNAL TRANSISTOR

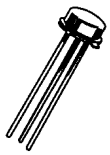
Qualified per MIL-PRF-19500/382

Devices			*Qualified Level*
2N2944A	**2N2945A**	**2N2946A**	**JAN JANTX JANTV**

MAXIMUM RATINGS

Ratings	Sym	2N2944A	2N2945A	2N2946A	Unit
Collector-Emitter Voltage	V_{CEO}	10	20	35	Vdc
Emitter-Collector Voltage	V_{ECO}	10	20	35	Vdc
Collector-Base Voltage	V_{CBO}	15	25	40	Vdc
Emitter-Base Voltage	V_{EBO}	15	25	40	Vdc
Collector Current	I_C	100			mAdc
Total Power Dissipation @ $T_A = +25^0C$	$P_T^{(1)}$	400			mW
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200			^0C

1) Derate linearly 2.30 mW/^{0}C above $T_A = +25^0C$



TO-46*
(TO-206AB)

*See appendix A for package outline

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

Characteristics		Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage					
I_C = 10 µAdc	2N2944A	$V_{(BR)CEO}$	10		Vdc
	2N2945A		20		
	2N2946A		35		
Emitter-Collector Breakdown Voltage					
I_E = 10 µAdc	2N2944A	$V_{(BR)ECO}$	10		Vdc
	2N2945A		20		
	2N2946A		35		
Collector-Base Cutoff Current					
I_C = 10 µAdc, V_{CB} = -15 Vdc	2N2944A	I_{CBO}	10		µAdc
I_C = 10 µAdc, V_{CB} = -25 Vdc	2N2945A		10		µAdc
I_C = 10 µAdc, V_{CB} = -40 Vdc	2N2946A		10		µAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
Emitter-Base Cutoff Current					
V_{EB} = 15 Vdc	2N2944A	I_{EBO}		0.1	ηAdc
V_{EB} = 25 Vdc	2N2945A			0.2	
V_{EB} = 40 Vdc	2N2946A			0.5	
ON CHARACTERISTICS (2)					
Forward-Current Transfer Ratio					
I_C = 1.0 mAdc, V_{CE} = 0.5 Vdc	2N2944A	h_{FE}	100		
	2N2945A		70		
	2N2946A		50		
Forward-Current Transfer Ratio					
I_B = 200 µAdc, V_{EC} = -0.5 Vdc	2N2944A	$h_{FE(INV)}$	50		
	2N2945A		30		
	2N2946A		20		
Emitter-Collector Offset Voltage					
I_B = 200 µAdc, I_E = 0	2N2944A	$V_{EC(OFS)}$		0.3	mVdc
	2N2945A			0.5	
	2N2946A			0.8	
I_B = 1.0 mAdc, I_E = 0	2N2944A			0.6	
	2N2945A			1.0	
	2N2946A			2.0	
I_B = 2.0 mAdc, I_E = 0	2N2944A			1.0	
	2N2945A			1.6	
	2N2946A			2.5	
DYNAMIC CHARACTERISTICS					
Emitter-Collector On-State Resistance					
I_B = 100 µAdc, I_E = 0, I_e = 100 µAdc (rms)	2N2944A	$r_{ec(on)}$		10	Ω
f = 1.0 kHz	2N2945A			12	
	2N2946A			14	
I_B = 1.0 mAdc, I_E = 0, I_e = 100 µAdc (rms)	2N2944A			4.0	
f =1.0 kHz	2N2945A			6.0	
	2N2946A			8.0	
Magnitude of Small-Signal Forward Current Transfer Ratio					
I_C = 1.0 mAdc, V_{CE} = 6.0Vdc, f = 1.0 MHz	2N2944A	h_{fe}	15	55	
	2N2945A		10	55	
	2N2946A		5.0	55	
Output Capacitance		C_{obo}		10	pF
V_{CB} = 6.0 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz					
Input Capacitance		C_{ibo}		6.0	pF
V_{EB} = 6.0 Vdc, I_C = 0, 100 kHz ≤ f ≤ 1.0 MHz					

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