Microsemi LAWRENCE

TECHNICAL DATA

NPN SILICON LOW POWER TRANSISTOR

Qualified per MIL-PRF-19500/376

Devices	*Qualified Level*
2N2484	**JANTX** **JANTXV**

MAXIMUM RATINGS

Ratings	Symbol	2N2484	Unit
Collector-Emitter Voltage	V_{CEO}	60	Vdc
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage	V_{EBO}	6.0	Vdc
Collector Current	I_C	50	mAdc
Total Power Dissipation @ $T_A = +25^0C$ (1) @ $T_C = +25^0C$ (2)	P_T	360 1.2	mW W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	^0C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	146	$^0C/W$

1) Derate linearly 2.06 mW/^{0}C above $T_A = +25^0C$
2) Derate linearly 6.85 mW/^{0}C above $T_C = +25^0C$

TO- 18*
(TO-206AA)

*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 Current I_C = 10 mAdc	$V_{(BR)CEO}$	60		Vdc
Collector-Emitter Cutoff Current V_{CE} = 45 Vdc	I_{CES}		5.0	ηAdc
Collector-Base Cutoff Current V_{CB} = 45 Vdc V_{CB} = 60 Vdc	I_{CBO}		5.0 10	ηAdc μAdc
Collector-Emitter Cutoff Current V_{CE} = 5.0 Vdc	I_{CEO}		2.0	ηAdc
Emitter-Base Cutoff Current V_{EB} = 5.0 Vdc V_{EB} = 6.0 Vdc	I_{EBO}		2.0 10	ηAdc μAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS (3)				
Forward-Current Transfer Ratio				
I_C = 1.0 µAdc, V_{CE} = 5.0 Vdc	h_{FE}	45		
I_C = 10 µAdc, V_{CE} = 5.0 Vdc		200	500	
I_C = 100 µAdc, V_{CE} = 5.0 Vdc		225	675	
I_C = 500 µAdc, V_{CE} = 5.0 Vdc		250	800	
I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc		250	800	
I_C = 10 mAdc, V_{CE} = 5.0 Vdc		225	800	
Collector-Emitter Saturation Voltage I_C = 1.0 mAdc, I_B = 100 µAdc	$V_{CE(sat)}$		0.3	Vdc
Base-Emitter Voltage V_{CE} = 5.0 Vdc, I_C = 100 µAdc	V_{BE}	0.5	0.7	Vdc
DYNAMIC CHARACTERISTICS				
Forward Current Transfer Ratio				
I_C = 50 µAdc, V_{CE} = 5.0 Vdc, f = 5.0 MHz	$\lvert h_{fe} \rvert$	3.0		
I_C = 500 µAdc, V_{CE} = 5.0 Vdc, f = 30 MHz		2.0	7.0	
Open Circuit Output Admittance I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz	h_{oe}		40	µmhos
Open Circuit Reverse-Voltage Transfer Ratio I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz	h_{re}		8.0×10^{-4}	
Input Impedance I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz	h_{ie}	3.5	24	kΩ
Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc, f = 1.0 kHz	h_{fe}	250	900	
Output Capacitance V_{CB} = 5.0 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C_{obo}		5.0	pF
Input Capacitance V_{EB} = 0.5 Vdc, I_C = 0, 100 kHz ≤ f ≤ 1.0 MHz	C_{ibo}		6.0	pF

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