Microsemi LAWRENCE

TECHNICAL DATA

NPN SILICON LOW POWER TRANSISTOR

Qualified per MIL-PRF-19500/ 313

Devices	*Qualified Level*
2N2432 **2N2432A**	**JAN** **JANTX** **JANTXV**

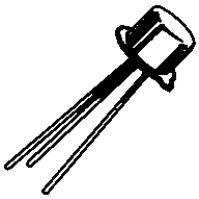
MAXIMUM RATINGS

Ratings	Symbol	2N2432	2N2432A	Unit
Collector-Emitter Voltage	V_{CEO}	30	45	Vdc
Collector-Base Voltage	V_{CBO}	30	45	Vdc
Emitter-Collector Voltage	V_{ECO}	15	18	Vdc
Collector Current	I_C	100		mAdc
Total Power Dissipation @ $T_A = +25^0C$ (1) @ $T_C = +25^0C$ (2)	P_T	300 600		mW mW
Operating & Storage Junction Temp. Range	T_{stg} T_J	-65 to +200 -65 to +175		^0C ^0C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	0.25	mW/^0C

1) Derate linearly 2.0 mW/^{0}C above $T_A > +25^0C$
2) Derate linearly 4.0 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					
Emitter-Collector Breakdown Voltage					
I_E = 100 μAdc, I_B = 0	2N2432	$V_{(BR)ECO}$	15		Vdc
	2N2432A		18		
I_E = 10 mAdc, I_B = 0	Both		10		
Collector-Emitter Breakdown Current					
I_C = 10 mAdc	2N2432	$V_{(BR)CEO}$	30		Vdc
	2N2432A		45		
Collector-Emitter Cutoff Current					
V_{CB} = 25 Vdc	2N2432	I_{CES}		10	ηAdc
V_{CB} = 40 Vdc	2N2432A			10	

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS (con't)					
Collector-Emitter Cutoff Current					
V_{CB} = 30 Vdc	2N2432	I_{CBO}		100	μAdc
V_{CB} = 25 Vdc	2N2432			10	ηAdc
V_{CB} = 40 Vdc	2N2432A			100	μAdc
V_{CB} = 45 Vdc	2N2432A			10	ηAdc
Emitter-Collector Cutoff Current					
V_{EC} = 15 Vdc, V_{BC} = 0 Vdc		I_{ECS}		2.0	ηAdc
Emitter-Base Cutoff Current					
V_{EB} = 15 Vdc		I_{EBO}		2.0	ηAdc
ON CHARACTERISTICS (1)					
Forward-Current Transfer Ratio					
I_C = 10 μAdc, V_{CE} = 5.0 Vdc		h_{FE}	30		
I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc			80	400	
Forward-Current Transfer Ratio (Inverted Connection)					
I_C = 0.2 mAdc, V_{CE} = 5.0 Vdc	2N2432	$h_{FE(inv)}$	2.0		
	2N2432A		3.0		
Collector-Emitter Saturation Voltage					
I_C = 10 Vdc, I_B = 0.5 mAdc		$V_{CE(sat)}$		0.15	mVdc
Emitter-Collector Offset Voltage					
I_E = 0 mAdc, I_B = 200 μAdc	2N2432			0.5	
	2N2432A	$V_{EC(ofs)}$		0.4	mVdc
I_E = 0 mAdc, I_B = 1.0 mAdc	2N2432			0.1	
	2N2432A			0.7	
DYNAMIC CHARACTERISTICS					
Forward Current Transfer Ratio					
I_C = 1.0 mAdc, V_{CE} = 5.0 Vdc, f = 20 MHz		$\lvert h_{fe} \rvert$	2.0	10	
Output Capacitance					
V_{CB} = 0 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz		C_{obo}		12	pF
Input Capacitance					
V_{EB} = 0 Vdc, I_C = 0, 100 kHz ≤ f ≤ 1.0 MHz		C_{ibo}		12	pF

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