Microsemi LAWRENCE

TECHNICAL DATA

NPN HIGH POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/622

Devices	*Qualified Level*
2N7368	**JAN JANTX JANTXV**

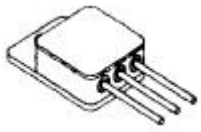
MAXIMUM RATINGS

Ratings	Symbol	Value	Units
Collector-Emitter Voltage	V_{CEO}	80	Vdc
Collector-Base Voltage	V_{CBO}	80	Vdc
Emitter-Base Voltage	V_{EBO}	7.0	Vdc
Base Current	I_B	4.0	Adc
Collector Current	I_C	10	Adc
Total Power Dissipation @ $T_C = 25^0C$ (1)	P_T	115	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	$R_{\theta JC}$	1.5	$^0C/W$

1) Derate linearly 0.657 $W/^0C$ for $T_C > 25^0C$



TO-254*

*See appendix A for package outline

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

Characteristics	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage I_C = 0.2 Adc	$V_{CEO(sus)}$	80		Vdc
Collector-Emitter Cutoff Current V_{CE} = 70 Vdc	I_{CES}		1.0	mAdc
Collector-Emitter Cutoff Current V_{CE} = 80 Vdc, V_{BE} = 1.5 Vdc	I_{CEX}		1.0	mAdc
Emitter-Base Cutoff Current V_{EB} = 7.0 Vdc	I_{EBO}		1.0	mAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS (2)				
Forward-Current Transfer Ratio				
I_C = 1.0 Adc, V_{CE} = 2.0 Vdc	h_{FE}	50	175	
I_C = 3.0 Adc, V_{CE} = 2.0 Vdc		30	140	
Collector-Emitter Saturation Voltage				
I_C = 5.0 Adc, I_B = 0.5 Adc	$V_{CE(sat)}$		1.0	Vdc
Base-Emitter Saturation Voltage				
I_C = 5.0 Adc, I_B = 0.5 Adc	$V_{BE(sat)}$		1.5	Vdc
DYNAMIC CHARACTERISTICS				
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio				
I_C = 0.5 Adc, V_{CE} = 10 Vdc, f = 1.0 MHz	$\lvert h_{fe} \rvert$	4.0	20	
Output Capacitance				
V_{CB} =10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C_{obo}		500	pF

SAFE OPERATING AREA

DC Tests

T_C = +25^{0}C, 1 Cycle, t ≥ 1.0 s

Test 1

V_{CE} = 11.5 Vdc, I_C = 10 Adc

Test 2

V_{CE} = 45 Vdc, I_C = 2.5 Adc

Test 3

V_{CE} = 60 Vdc, I_C = 0.9 Adc

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