Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Microsemi LAWRENCE

TECHNICAL DATA

NPN POWER SILICON TRANSISTOR

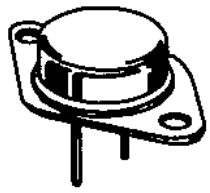
Qualified per MIL-PRF-19500/498

Devices		*Qualified Level*
2N6306	**2N6308**	**JAN JANTX JANTXV**

MAXIMUM RATINGS

Ratings	Symbol	2N6306	2N6308	Units
Collector-Emitter Voltage	V_{CEO}	250	350	Vdc
Collector-Base Voltage	V_{CBO}	500	700	Vdc
Emitter-Base Voltage	V_{EBO}	8.0		Vdc
Collector Current	I_C	8.0		Adc
Base Current	I_B	4.0		Adc
Total Power Dissipation @ $T_C = +25^0C$ (1) @ $T_C = +100^0C$ (1)	P_T	125 62.5		W W
Operating & Storage Temperature Range	T_{op}, T_{stg}	-65 to +200		^0C

1) Between $T_C = +25^0C$ and $T_C = +175^0C$, linear derating factor average = 0.833 W/^{0}C



TO-3 (TO-204AA)*

*See Appendix A for Package Outline

ELECTRICAL CHARACTERISTICS

Characteristics		Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Base Breakdown Voltage I_C = 100 mAdc	2N6306 2N6308	$V_{(BR)CEO}$	250 350		Vdc
Collector-Emitter Cutoff Current V_{CE} = 500 Vdc; V_{BE} = 1.5 Vdc V_{CE} = 700 Vdc; V_{BE} = 1.5 Vdc	2N6306 2N6308	I_{CEX}		5.0 5.0	µAdc
Collector-Emitter Cutoff Current V_{CE} = 250 Vdc V_{CE} = 350 Vdc	2N6306 2N6308	I_{CEO}		50 50	µAdc
Emitter-Base Cutoff Current V_{EB} = 8 Vdc		I_{EBO}		5.0	µAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
ON CHARACTERISTICS (2)					
Forward-Current Transfer Ratio					
I_C = 3.0 Adc; V_{CE} = 5.0 Vdc	2N6306	h_{FE}	15	75	
	2N6308		12	60	
I_C = 8.0 Adc; V_{CE} = 5.0 Vdc	2N6306		4		
	2N6308		3		
I_C = 0.5 Adc; V_{CE} = 5.0 Vdc	2N6306		15		
	2N6308		12		
Base-Emitter Voltage					
V_{CE} = 5.0 Vdc; I_C = 3.0 Adc	2N6306	$V_{BE(on)}$		1.3	Vdc
	2N6308			1.5	
Base-Emitter Saturated Voltage					
I_B = 2.0 Adc; I_C = 8.0 Adc	2N6306	$V_{BE(sat)}$		2.3	Vdc
I_B = 2.67 Adc; I_C = 8.0 Adc	2N6308			2.5	
Collector-Emitter Saturated Voltage					
I_B = 2.0 Adc; I_C = 8.0 Adc	2N6306			5.0	
I_B = 2.67 Adc; I_C = 8.0 Adc	2N6308	$V_{CE(sat)}$		5.0	Vdc
I_B = 0.6 Adc; I_C = 3.0 Adc	2N6306			0.8	
	2N6308			1.5	
DYNAMIC CHARACTERISTICS					
Magnitude of Common-Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio		$\lvert h_{fe} \rvert$			
I_C = 0.3 Adc, V_{CE} = 10 Vdc, f = 1 MHz			5	30	
Small-Signal Short-Circuit Forward Current Transfer Ratio		h_{fe}			
I_C = 0.5 Adc, V_{CE} = 4.0 Vdc, f = 1.0 kHz			5		
Output Capacitance		C_{obo}			pF
V_{CB} = 10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz				250	
SWITCHING CHARACTERISTICS					
Turn-On Time		t_{on}			µs
V_{CC} = 125 Vdc; I_C = 3.0 Adc; I_B = 0.6 Adc				0.6	
Turn-Off Time		t_{off}			µs
V_{CC} = 125 Vdc; I_C = 3.0 Adc; I_{B1} = 0.6 Adc; I_{B2} = 1.5 Adc				3.0	

SAFE OPERATING AREA

DC Tests

T_C = +25^{0}C; t = 1 s, 1 cycle (See Figure 2 and 3 of MIL-PRF-19500/498)

Test 1

V_{CE} = 15.6 Vdc, I_C = 8 Adc

Test 2

V_{CE} = 37 Vdc, I_C = 3.4 Adc

Test 3

V_{CE} = 200 Vdc, I_C = 65 mAdc 2N6306

V_{CE} = 300 Vdc, I_C = 25 mAdc 2N6308

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