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

PNP HIGH POWER SILICON TRANSISTOR

Qualified per MIL-PRF-19500/433

Devices		*Qualified Level*
2N4399	**2N5745**	**JANTX JANTXV**

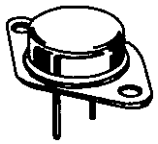
MAXIMUM RATINGS

Ratings	Symbol	2N4399	2N5745	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	Vdc
Collector-Base Voltage	V_{CBO}	60	80	Vdc
Emitter-Base Voltage	V_{EBO}	5.0		Vdc
Base Current	I_B	7.5		Adc
Collector Current	I_C	30	20	Adc
Total Power Dissipation @ T_A =+ 25^{0}C (1) @ T_C = +100^{0}C (2)	P_T	5.0 115		W W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-55 to +200		^{0}C

THERMAL CHARACTERISTICS

Characteristics		Symbol	Max.	Unit
Thermal Resistance,	Junction-to-Case	$R_{\theta JC}$	0.875	^{0}C/W
	Junction-to-Ambient	$R_{\theta JA}$	35	

1) Derate linearly @ 28.57 mW/^{0}C for T_A > +25^{0}C
2) Derate linearly @ 1.15 W/^{0}C for T_C > +100^{0}C



TO-3*
(TO-204AA)

*See appendix A for package outline

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

Characteristics		Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage I_C = 200 mAdc	2N4399 2N5745	$V_{(BR)CEO}$	60 80		Vdc
Collector-Emitter Cutoff Current V_{CE} = 60 Vdc V_{CE} = 80 Vdc	2N4399 2N5745	I_{CEO}		100 100	µAdc
Collector-Emitter Cutoff Current V_{CE} = 60 Vdc, V_{BE} = 1.5 Vdc V_{CE} = 80 Vdc, V_{BE} = 1.5 Vdc	2N4399 2N5745	I_{CEX}		5.0 5.0	µAdc
Emitter-Base Cutoff Current V_{EB} = 5.0 Vdc		I_{EBO}		5.0	µAdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
ON CHARACTERISTICS [3]					
Forward-Current Transfer Ratio					
I_C = 1.0 Adc, V_{CE} = 2.0 Vdc			40	425	
I_C = 15 Adc, V_{CE} = 2.0 Vdc	2N4399	h_{FE}	15	60	
I_C = 10 Adc, V_{CE} = 2.0 Vdc	2N5745		15	60	
I_C = 30 Adc, V_{CE} = 5.0 Vdc	2N4399		5.0		
I_C = 20 Adc, V_{CE} = 5.0 Vdc	2N5745		5.0		
Collector-Emitter Saturation Voltage					
I_C = 5.0 Adc, I_B = 0.5 Adc		$V_{CE(sat)}$		0.55	Vdc
I_C = 10 Adc, I_B = 1.0 Adc	2N4399			0.75	
	2N5745			1.0	
Base-Emitter Saturation Voltage					
I_C = 10 Adc, I_B = 1.0 Adc		$V_{BE(sat)}$		1.7	Vdc
I_C = 15 Adc, I_B = 1.5 Adc	2N4399			1.8	
	2N5745			2.0	
DYNAMIC CHARACTERISTICS					
Magnitude of Common Emitter Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 1.0 Adc, V_{CE} = 10 Vdc, f = 1.0 MHz		$\lvert h_{fe} \rvert$	4.0	40	
Small-Signal Short-Circuit Forward Current Transfer Ratio I_C = 1.0 Adc, V_{CE} = 10 Vdc, f = 1.0 MHz		h_{fe}	40	425	
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz		C_{obo}		1000	pF

SAFE OPERATING AREA

DC Tests	
T_C = +25^{0}C, 1 Cycle, t = 1.0 s	
Test 1	
V_{CE} = 6.67 Vdc, I_C = 30 Adc	2N4399
V_{CE} = 10 Vdc, I_C = 20 Adc	2N5745
Test 2	
V_{CE} = 20 Vdc, I_C = 10 Adc	All Types
Test 3	
V_{CE} = 40 Vdc, I_C = 3.0 Adc	All Types
Test 4	
V_{CE} = 50 Vdc, I_C = 600 mAdc	2N4399
V_{CE} = 60 Vdc, I_C = 600 mAdc	2N5745

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