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!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Microsemi LAWRENCE

TECHNICAL DATA

NPN MEDIUM POWER SILICON SWITCHING TRANSISTOR

Qualified per MIL-PRF-19500/99

Devices	*Qualified Level*
2N696, 2N696S, 2N697, 2N697S	**JAN**

MAXIMUM RATINGS

Ratings	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Total Power Dissipation @ $T_A = 25^0C$ (1) @ $T_C = 25^0C$ (2)	P_T	0.6 2.0	W 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	$R_{\theta JC}$	0.075	$^0C/mW$

1) Derate linearly 4.0 mW/^{0}C for $T_A > 25^0C$
2) Derate linearly 13.3 mW/^{0}C for $T_C > 25^0C$

TO-5*

*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 Voltage R_{BE} = 10 Ω, I_C = 100 mAdc		$V_{(BR)CER}$	40		Vdc
Collector-Base Cutoff Current V_{CB} = 100 Vdc V_{CB} = 30 Vdc		I_{CBO}		10 0.1	µAdc
Emitter-Base Cutoff Current V_{EB} = 7.0 Vdc		I_{EBO}		10	µAdc
ON CHARACTERISTICS (3)					
Forward-Current Transfer Ratio I_C = 150 mAdc, V_{CE} = 10 Vdc I_C = 500 mAdc, V_{CE} = 10 Vdc	2N696,s 2N697,s 2N696,s 2N697,s	h_{FE}	20 40 12.5 20.0	60 120	
Collector-Emitter Saturation Voltage I_C = 150 mAdc, I_B = 15 mAdc		$V_{CE(sat)}$	0.3	1.5	Vdc
Base-Emitter Saturation Voltage I_C = 150 mAdc, I_B = 15 mAdc		$V_{BE(sat)}$		1.3	Vdc

ELECTRICAL CHARACTERISTICS (con't)

Characteristics		Symbol	Min.	Max.	Unit
DYNAMIC CHARACTERISTICS					
Magnitude of Common Emitter Small-Signal Short-Circuit Forward-Current Transfer Ratio I_C = 50 mAdc, V_{CE} = 10 Vdc; f = 20 MHz	2N696,s 2N697,s	$\lvert h_{fe} \rvert$	2.5 3.0	10 12	
Output Capacitance V_{CB} = 10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz		C_{obo}	2.0	25	pF
SWITCHING CHARACTERISTICS					
Turn-On Time (See Figure 3 of MIL-PRF-19500/ 99)		t_{on}		200	ηs
Turn-Off Time (See Figure 4 of MIL-PRF-19500/99)		t_{off}		1,000	ηs

(3) Pulse Test: Pulse Width 250 to 350μs, Duty Cycle ≤ 2.0%.