



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



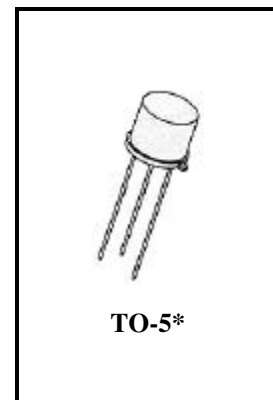
NPN MEDIUM POWER SILICON SWITCHING TRANSISTOR
Qualified per MIL-PRF-19500/ 99
Devices
**2N696
2N696S**
**2N697
2N697S**
Qualified Level
JAN
MAXIMUM RATINGS

Ratings	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0	Vdc
Total Power Dissipation @ $T_A = 25^{\circ}\text{C}$ ⁽¹⁾ @ $T_C = 25^{\circ}\text{C}$ ⁽²⁾	P_T	0.6 2.0	W W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	0.075	$^{\circ}\text{C}/\text{mW}$

1) Derate linearly 4.0 mW/ $^{\circ}\text{C}$ for $T_A > 25^{\circ}\text{C}$

2) Derate linearly 13.3 mW/ $^{\circ}\text{C}$ for $T_C > 25^{\circ}\text{C}$


*See appendix A for package outline

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
-----------------	--------	------	------	------

OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $R_{BE} = 10 \Omega, I_C = 100 \text{ mAdc}$	$V_{(BR)CER}$	40		Vdc
Collector-Base Cutoff Current $V_{CB} = 100 \text{ Vdc}$ $V_{CB} = 30 \text{ Vdc}$	I_{CBO}		10 0.1	μAdc
Emitter-Base Cutoff Current $V_{EB} = 7.0 \text{ Vdc}$	I_{EBO}		10	μAdc

ON CHARACTERISTICS ⁽³⁾

Forward-Current Transfer Ratio $I_C = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N696,s 2N697,s 2N696,s 2N697,s	h_{FE}	20 40 12.5 20.0	60 120	
Collector-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$	$V_{CE(sat)}$	0.3	1.5		Vdc
Base-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$	$V_{BE(sat)}$		1.3		Vdc

2N696, 2N696s, 2N697, 2N697s SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
-----------------	--------	------	------	------

DYNAMIC CHARACTERISTICS

Magnitude of Common Emitter Small-Signal Short-Circuit Forward-Current Transfer Ratio $I_C = 50 \text{ mAdc}$, $V_{CE} = 10 \text{ Vdc}$; $f = 20 \text{ MHz}$	$ h_{fe} $	2.5 3.0	10 12	
Output Capacitance $V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	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 350 μs , Duty Cycle $\leq 2.0\%$.

