



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 SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ZTX692B

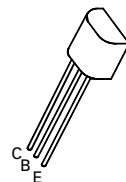
ISSUE 1 – APRIL 94

FEATURES

- * 70 Volt V_{CEO}
- * Gain of 400 at $I_C=500mA$
- * Very low saturation voltage

APPLICATIONS

- * Darlington replacement
- * Relay drivers
- * Battery powered circuits
- * Motor drivers



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|----------------------|
| Collector-Base Voltage | V_{CBO} | 70 | V |
| Collector-Emitter Voltage | V_{CEO} | 70 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Peak Pulse Current | I_{CM} | 2 | A |
| Continuous Collector Current | I_C | 1 | A |
| Practical Power Dissipation* | P_{totp} | 1.5 | W |
| Power Dissipation at $T_{amb}=25^{\circ}C$ derate above $25^{\circ}C$ | P_{tot} | 1 5.7 | W mW/ $^{\circ}C$ |
| Operating and Storage Temperature Range | $T_J; T_{stg}$ | -55 to +200 | $^{\circ}C$ |

*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|---------------|-------------------|------|-------------|---------|---|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 70 | | | V | $I_C=100\mu A$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 70 | | | V | $I_C=10mA^*$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 5 | | | V | $I_E=100\mu A$ |
| Collector Cut-Off Current | I_{CBO} | | | 0.1 | μA | $V_{CB}=55V$ |
| Emitter Cut-Off Current | I_{EBO} | | | 0.1 | μA | $V_{EB}=4V$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | | 0.15 0.5 | V V | $I_C=0.1A, I_B=0.5mA^*$ $I_C=1A, I_B=10mA^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | | 0.9 | V | $I_C=1A, I_B=10mA^*$ |
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | | 0.9 | V | $I_C=1A, V_{CE}=2V^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 500 400 150 | | | | $I_C=100mA, V_{CE}=2V^*$ $I_C=500mA, V_{CE}=2V^*$ $I_C=1A, V_{CE}=2V^*$ |

ZTX692B

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$)

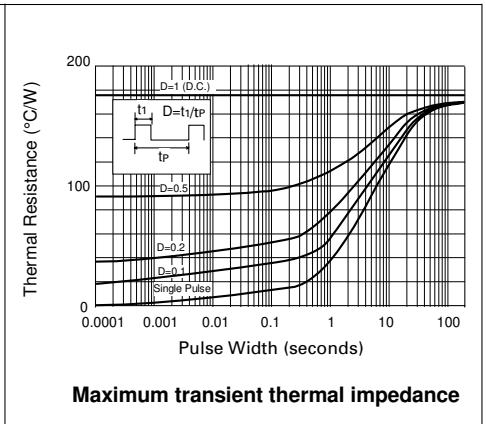
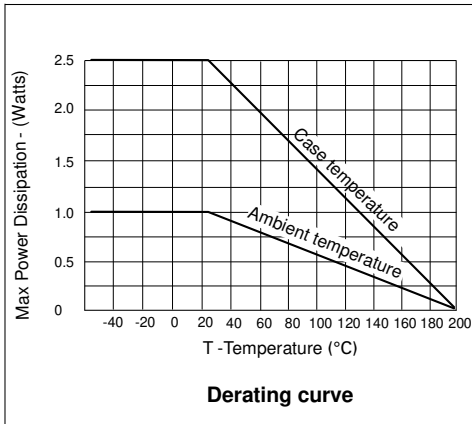
| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|----------------------|-----------|------|------|------|------|---|
| Transition Frequency | f_T | 150 | | | MHz | $I_C=50\text{mA}$, $V_{CE}=5\text{V}$ $f=50\text{MHz}$ |
| Input Capacitance | C_{ibo} | | 200 | | pF | $V_{EB}=0.5\text{V}$, $f=1\text{MHz}$ |
| Output Capacitance | C_{obo} | | 12 | | pF | $V_{CB}=10\text{V}$, $f=1\text{MHz}$ |
| Switching Times | t_{on} | | 46 | | ns | $I_C=500\text{mA}$, $I_{B1}=50\text{mA}$ $I_{B2}=50\text{mA}$, $V_{CC}=10\text{V}$ |
| | t_{off} | | 1440 | | ns | |

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | MAX. | UNIT |
|--|--------------------------|------|----------------------|
| Thermal Resistance: Junction to Ambient ₁ | $R_{th(j-amb)1}$ | 175 | $^{\circ}\text{C/W}$ |
| Junction to Ambient ₂ | $R_{th(j-amb)2} \dagger$ | 116 | $^{\circ}\text{C/W}$ |
| Junction to Case | $R_{th(j-case)}$ | 70 | $^{\circ}\text{C/W}$ |

\dagger Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.



ZTX692B

TYPICAL CHARACTERISTICS

