

NPN SILICON PLANAR MEDIUM POWER HIGH CURRENT TRANSISTOR

ZTX869

ISSUE 1 – APRIL 94

FEATURES

- * 25 Volt V_{CEO}
- * 5 Amps continuous current
- * Up to 20 Amps peak current
- * Very low saturation voltage
- * High Gain
- * $P_{tot}=1.2$ Watts



**E-Line
TO92 Compatible**

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|----------------|-------------|-------------|
| Collector-Base Voltage | V_{CBO} | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 25 | V |
| Emitter-Base Voltage | V_{EBO} | 6 | V |
| Peak Pulse Current | I_{CM} | 20 | A |
| Continuous Collector Current | I_C | 5 | A |
| Practical Power Dissipation* | P_{totp} | 1.58 | W |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 1.2 | W |
| 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 $T_{amb} = 25^{\circ}C$ unless otherwise stated)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|--------------------------------------|--------------------------------|------|------------------------|------------------------|----------------------|--|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 60 | 120 | | V | $I_C=100\mu A$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CER}$ | 60 | 120 | | V | $I_C=1\mu A, R_B \leq 1K\Omega$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 25 | 35 | | V | $I_C=10mA^*$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 6 | 8 | | V | $I_E=100\mu A$ |
| Collector Cut-Off Current | I_{CBO} | | | 50 1 | nA μA | $V_{CB}=50V$ $V_{CB}=50V, T_{amb}=100^{\circ}C$ |
| Collector Cut-Off Current | I_{CER} $R \leq 1K\Omega$ | | | 50 1 | nA μA | $V_{CB}=50V$ $V_{CB}=50V, T_{amb}=100^{\circ}C$ |
| Emitter Cut-Off Current | I_{EBO} | | | 10 | nA | $V_{EB}=6V$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 25 50 100 180 | 50 80 200 220 | mV mV mV mV | $I_C=0.5A, I_B=10mA^*$ $I_C=1A, I_B=10mA^*$ $I_C=2A, I_B=100mA^*$ $I_C=5A, I_B=100mA^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 880 | 950 | mV | $I_C=5A, I_B=100mA^*$ |

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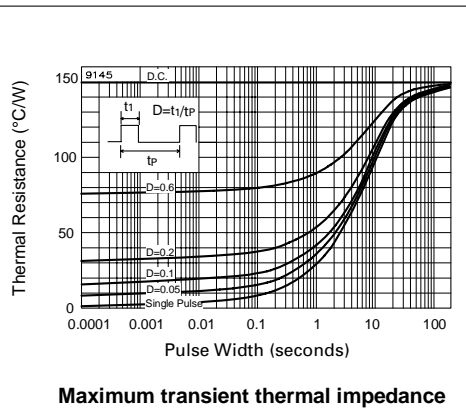
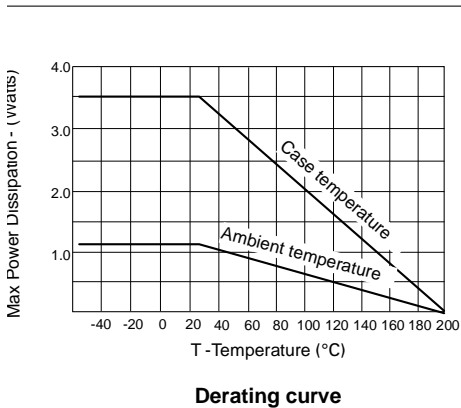
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---------------------------------------|-----------------------|-------------------------|--------------------------|------|----------|---|
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | 800 | 900 | mV | $I_C=5A, V_{CE}=1V^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 300 300 250 40 | 450 450 400 100 | | | $I_C=10mA, V_{CE}=1V$ $I_C=1A, V_{CE}=1V^*$ $I_C=5A, V_{CE}=1V^*$ $I_C=20A, V_{CE}=1V^*$ |
| Transition Frequency | f_T | | 100 | | MHz | $I_C=100mA, V_{CE}=10V$ $f=50MHz$ |
| Output Capacitance | C_{obo} | | 70 | | pF | $V_{CB}=10V, f=1MHz$ |
| Switching Times | t_{on} t_{off} | | 60 680 | | ns ns | $I_C=1A, I_{B1}=100mA$ $I_{B2}=100mA, V_{CC}=10V$ |

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

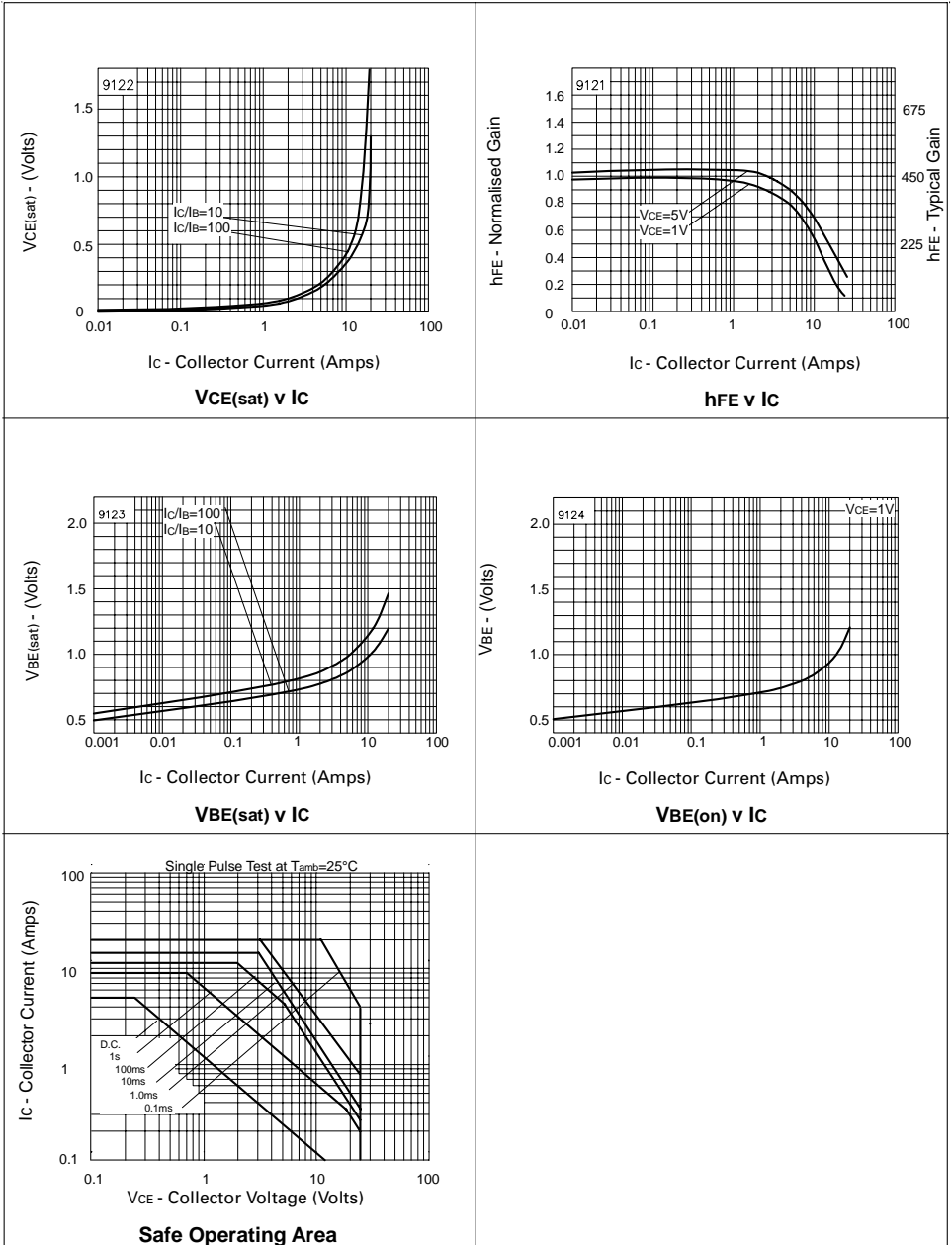
THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | MAX. | UNIT |
|---|-------------------------------------|-----------|--|
| Thermal Resistance: Junction to Ambient Junction to Case | $R_{th(j-amb)}$ $R_{th(j-case)}$ | 150 50 | $^{\circ}\text{C/W}$ $^{\circ}\text{C/W}$ |



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TYPICAL CHARACTERISTICS



单击下面可查看定价，库存，交付和生命周期等信息

[>>Diodes Incorporated\(达达科技\(美台\)\)](#)