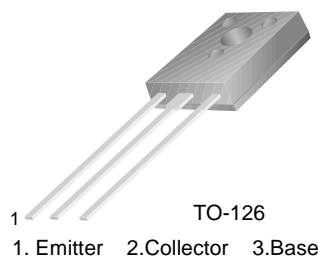


KSB1149

KSB1149

Low Collector Saturation Voltage Built-in Damper Diode at E-C

- High DC Current Gain
- High Power Dissipation : $P_C=1.3W$ ($T_a=25^\circ C$)

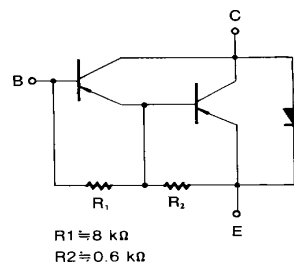


PNP Silicon Darlington Transistor

Absolute Maximum Ratings $T_C=25^\circ C$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------|
| V_{CBO} | Collector-Base Voltage | - 100 | V |
| V_{CEO} | Collector-Emitter Voltage | - 100 | V |
| V_{EBO} | Emitter-Base Voltage | - 8 | V |
| I_C | Collector Current (DC) | - 3 | A |
| I_{CP} | *Collector Current (Pulse) | - 5 | A |
| P_C | Collector Dissipation ($T_a=25^\circ C$) | 1.3 | W |
| P_C | Collector Dissipation ($T_C=25^\circ C$) | 15 | W |
| T_J | Junction Temperature | 150 | $^\circ C$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ C$ |

* $PW \leq 10ms$, Duty Cycle $\leq 50\%$



Electrical Characteristics $T_C=25^\circ C$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|------------------------|--|---|--------------|-------|-------|---------|
| I_{CBO} | Collector Cut-off Current | $V_{CB} = -100V, I_E = 0$ | | | - 10 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = -5V, I_C = 0$ | | | - 2 | mA |
| h_{FE1} h_{FE2} | * DC Current Gain | $V_{CE} = -2V, I_C = -1.5A$ $V_{CE} = -2V, I_C = -3A$ | 2000 1000 | | 20000 | |
| $V_{CE(sat)}$ | * Collector-Emitter Saturation Voltage | $I_C = -1.5A, I_B = -1.5mA$ | | - 0.9 | - 1.2 | V |
| $V_{BE(sat)}$ | * Base-Emitter Saturation Voltage | $I_C = -1.5A, I_B = -1.5mA$ | | - 1.5 | - 2 | V |
| t_{ON} | Turn ON Time | $V_{CC} = -40V, I_C = -1.5A$ $I_{B1} = -I_{B2} = -1.5mA$ $R_L = 27\Omega$ | | 0.5 | | μs |
| t_{STG} | Storage Time | | | 2 | | μs |
| t_F | Fall Time | | | 1 | | μs |

* Pulse test: $PW \leq 350\mu s$, duty Cycle $\leq 2\%$ Pulsed

h_{FE} Classification

| Classification | O | Y | G |
|----------------|-------------|--------------|--------------|
| h_{FE1} | 2000 ~ 5000 | 4000 ~ 12000 | 6000 ~ 20000 |

Typical Characteristics

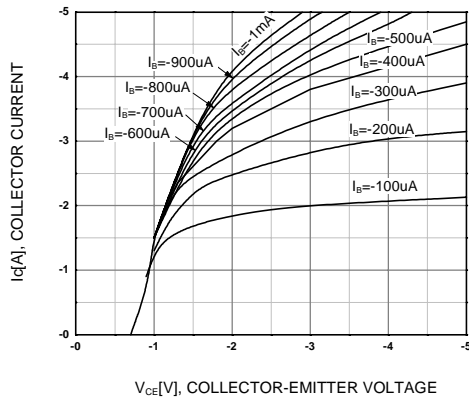


Figure 1. Static Characteristic

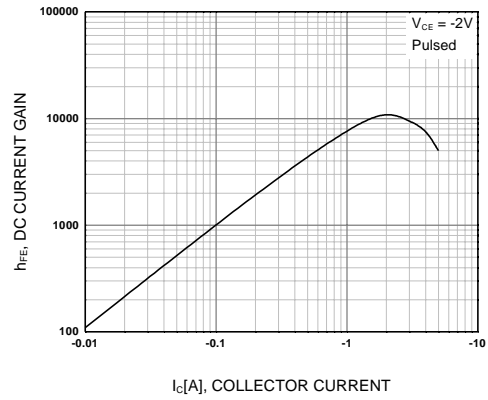


Figure 2. DC current Gain

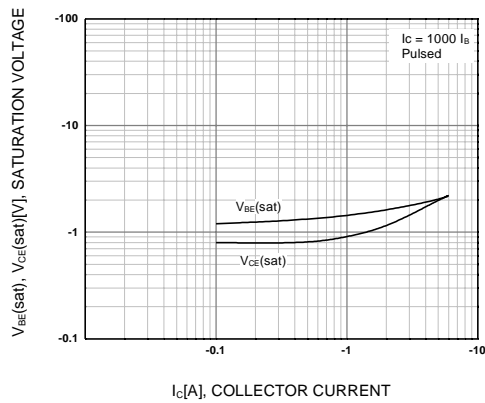


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

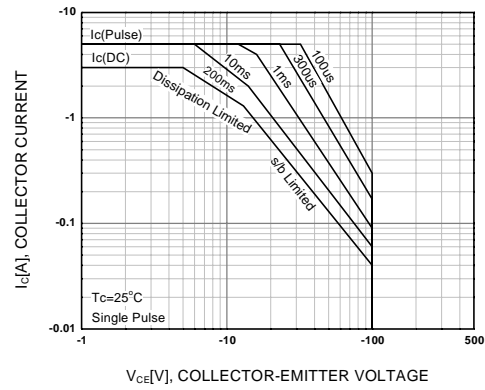


Figure 4. Forward Bias Safe Operating Area

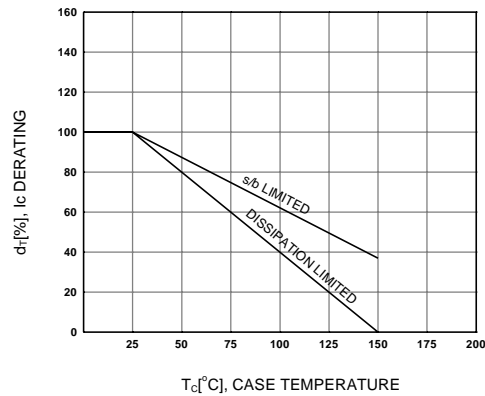


Figure 5. Derating Curve of Safe Operating Areas

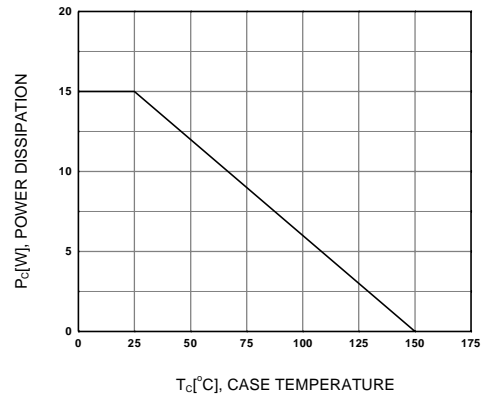
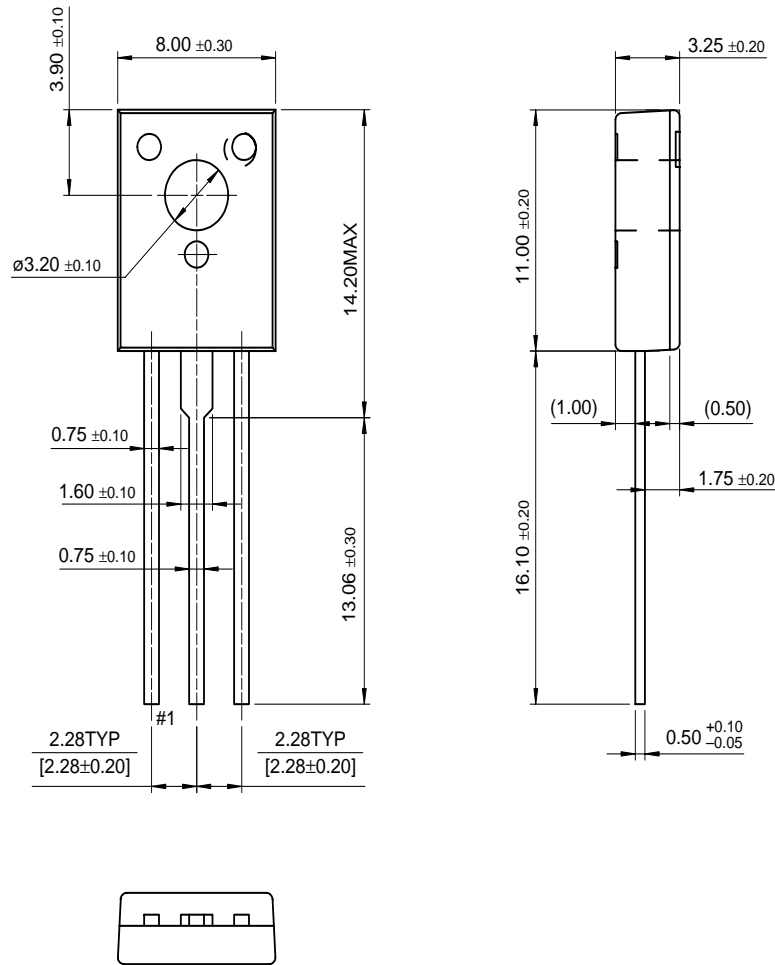


Figure 6. Power Derating

Package Dimensions

TO-126



Dimensions in Millimeters

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|--------------------------|------------------------|---|
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