



PRELIMINARY

SOLID STATE DEVICES, INC.
14830 Valley View Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773

SPT165

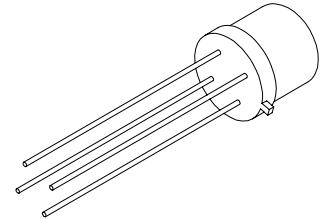
**10 mA
45 VOLTS
NPN (V_{REF}) TRANSISTOR**

DESIGNER'S DATA SHEET

FEATURES:

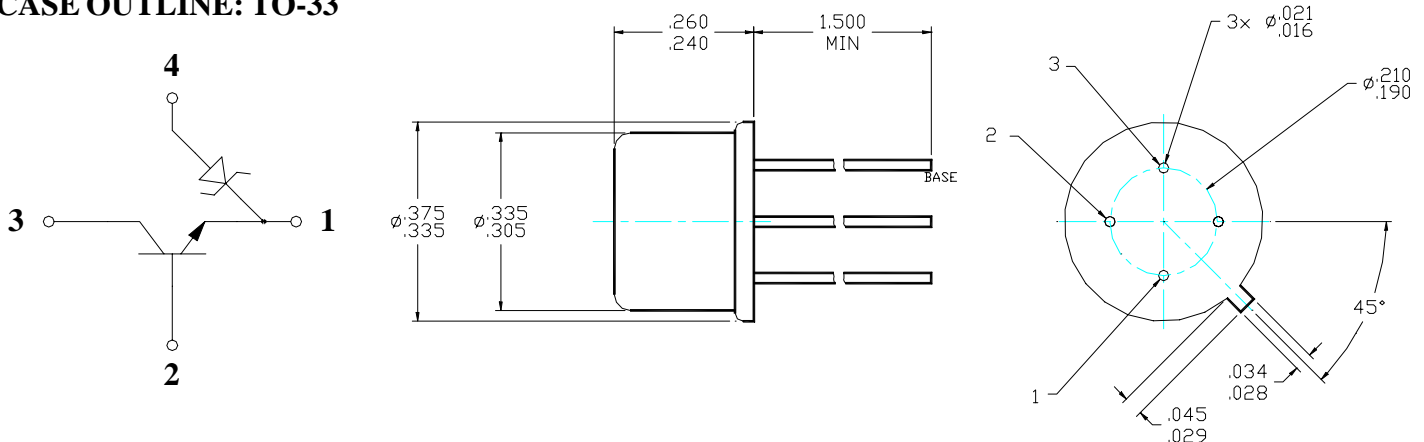
- **BV_{CEO} 45V.**
- **Very Low Leakage.**
- **High Gain.**
- **Stable Reference Voltage 0.002%/ °C from 0 to 70°C.**
- **Isolated Case.**
- **Hermetic, Metal Case with Glass Seals.**
- **150°C Operating Temperature.**

TO-33



| MAXIMUM RATINGS | SYMBOL | VALUE | UNITS |
|---|-----------------------------------|-------------|-------------|
| Collector-Emitter Voltage | V _{CEO} | 45 | Volts |
| Collector-Base Voltage | V _{CBO} | 45 | Volts |
| Emitter-Base Voltage | V _{EBO} | 3 | Volts |
| Collector Current, T _c ≤ 150°C | I _C | 10 | mAmps |
| Base or Zener Current, T _c ≤ 150°C | I _B , I _Z | 6 | mAmps |
| Total Device Dissipation @ T _A = 25°C Derate above 25°C | P _D | 250 2 | mW mW/°C |
| Operating and Storage Temperature | T _J , T _{STG} | -55 to +150 | °C |
| Thermal Resistance, Junction to Case | R _{θJC} | 500 | °C/W |

CASE OUTLINE: TO-33



NOTE: All specifications are subject to change without notification.
SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: TR0010A

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| ELECTRICAL CHARACTERISTICS | SYMBOL | MIN | MAX | UNITS |
|---|---------------|------------|------------|---------------|
| Collector-Emitter Breakdown Voltage * ($I_C = 1.0\text{mA}_{DC}$) | BV_{CEO} | 45 | - | V |
| Collector Cutoff Current ($V_{CB} = 30V_{DC}$) | I_{CBO} | - | 1 | μA |
| DC Current Gain* ($I_C = 500\mu\text{A}_{DC}$, $V_{CE} = 3V_{DC}$) | H_{FE} | 10 | 120 | |
| Reference Voltage * ($V_{CE} = 3V_{DC}$) | V_{REF} | 6.3 | 7.7 | V_{DC} |

*Pulse Test: Pulse Width = 300us, Duty Cycle = 2%