X00129



# SPT6693
# 20 AMP HIGH VOLTAGE HIGH ENERGY NPN TRANSISTOR 400 VOLTS

SSDI

14849 FIRESTONE BLVD.
LA MIRADA, CA 90638
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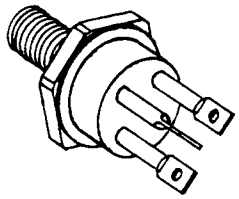
## CASE STYLE "T"

JEDEC TO-61
ALL TERMINALS ISOLATED FROM CASE



## FEATURES

- COLLECTOR BASE VOLTAGE 700V MIN
- HIGH POWER, 175 WATTS
- HIGH GAIN, LOW SATURATION
- 200 °C OPERATING TEMPERATURE
- GOLD EUTECTIC DIE ATTACH
- ISOLATED PACKAGE WITH LOW THETA
- REPLACES TRW SVT300/400 SERIES
- SUPERIOR TO RCA 2N6691, 92, 93.

## MAXIMUM RATINGS

| RATING | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Collector-Emitter Voltage | VCEO | 400 | Volts |
| Collector-Base Voltage | VCBO | 800 | Volts |
| Emitter-Base Voltage | VEBO | 8 | Volts |
| Collector Current | IC | 20 | Amps |
| Base Current | IB | 7 | Amps |
| Total Device Dissipation @ Tc = 25 °C<br>Derate Above 25 °C | PD | 175<br>1 | Watts<br>W/ °C |
| Operating and Storage Temperature | TJ, Tstg | -65 to +200 | °C |

## THERMAL CHARACTERISTICS

| CHARACTERISTIC | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 1.0 | °C/W |

## ELECTRICAL CHARACTERISTICS

| Characteristics | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Collector-Emitter Breakdown Voltage*<br>(IC = 200mAdc) | BVCEO | 400 | | Volts |
| Collector-Base Breakdown Voltage<br>(IC = 10 µAdc) | BVCBO | 700 | | Volts |



Note: Specifications subject to change wi[illegible]

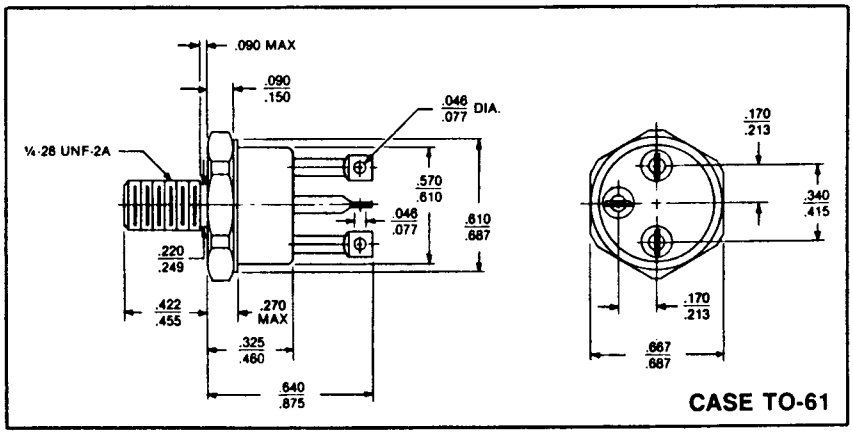
# ELECTRICAL CHARACTERISTICS



| Characteristics | | Symbol | Min | Max | Unit |
|---|---|---|---|---|---|
| Emitter-Base Breakdown Voltage (IE = 10uAdc) | | BVEBO | 8 | | Vdc |
| Collector Cutoff Current (VCE = 650Vdc, VBE = 1.5V) | | ICEV | | 100 | µAdc |
| Emitter Cutoff Current (VEB = 6Vdc) | | IEBO | | 5 | µAdc |
| DC Current Gain* (IC = 5 Adc, VCE = 7 Vdc) (IC = 15 Adc, VCE = 7 Vdc) (IC = 20 Adc, VCE = 7 Vdc) | | hFE | 20 10 8 | | |
| Collector-Emitter Saturation Voltage* (IC = 5 Adc, IB = 1 Adc) (IC = 15 Adc, IB = 3 Adc) | | VCE(SAT) | | 1.0 1.5 | Vdc |
| Base-Emitter Saturation Voltage* (IC = 5 Adc, IB = 1 Adc) (IC = 15 Adc, IB = 3 Adc) | | VBE(SAT) | | 1.0 1.5 | Vdc |
| Current Gain Bandwidth Product (IC = 1 Adc, VCE = 10Vdc, f = 10MHz) | | fT | 20 | | MHz |
| Output Capacitance (VCB = 10Vdc, IE = 0Adc, f = 1MHz) | | Cob | | 500 | pf |
| Turn On Time | (VCC = 100 Vdc, IC = 15 Adc, IB1 = IB2 = 3 Adc) VBE (off) = 6 V | ton | | 600 | ns |
| Turn Off Time | | toff | | 2.5 | µs |

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

# PHYSICAL DIMENSIONS

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