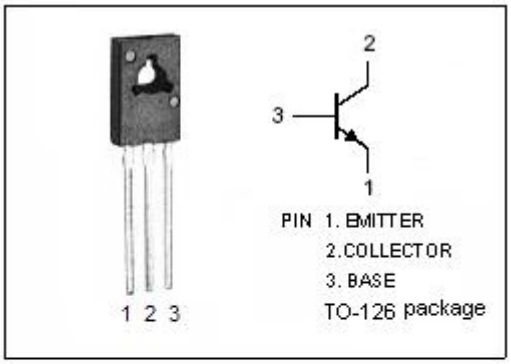
# isc Silicon NPN Power Transistor — 2SC3790

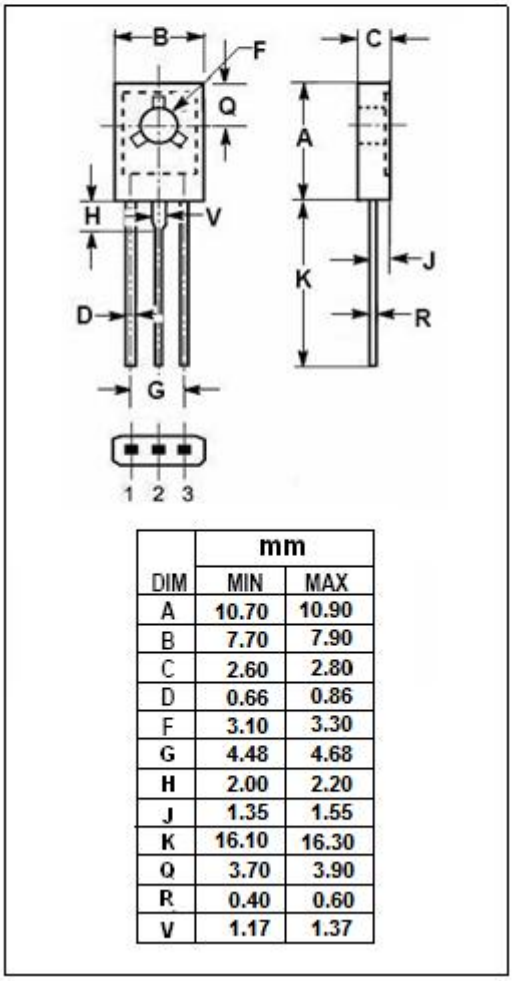
## DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 300V(Min)
- Complement to Type 2SA1480
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## APPLICATIONS

- Designed for high-definition CRT display and video output applications.




| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 10.70 | 10.90 |
| B | 7.70 | 7.90 |
| C | 2.60 | 2.80 |
| D | 0.66 | 0.86 |
| F | 3.10 | 3.30 |
| G | 4.48 | 4.68 |
| H | 2.00 | 2.20 |
| J | 1.35 | 1.55 |
| K | 16.10 | 16.30 |
| Q | 3.70 | 3.90 |
| R | 0.40 | 0.60 |
| V | 1.17 | 1.37 |

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 300 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 300 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current-Continuous | 0.1 | A |
| $I_{CM}$ | Collector Current-Peak | 0.2 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 7 | W |
| | Collector Power Dissipation @ $T_a$=25℃ | 1.5 | |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C$= 10μA; $I_E$= 0 | 300 | | | V |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= 1mA; $R_{BE}$= ∞ | 300 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Vltage | $I_E$= 10μA; $I_C$= 0 | 5 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 20mA; $I_B$= 2mA | | | 0.6 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 20mA; $I_B$= 2mA | | | 1.0 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 200V; $I_E$= 0 | | | 0.1 | μA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 4V; $I_C$= 0 | | | 0.1 | μA |
| $h_{FE}$ | DC Current Gain | $I_C$= 10mA; $V_{CE}$= 10V | 40 | | 320 | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 10mA; $V_{CE}$= 30V | | 150 | | MHz |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 30V, $f_{test}$= 1MHz | | 2.6 | | pF |

◆ **$h_{FE}$ Classifications**

| C | D | E | F |
|---|---|---|---|
| 40-80 | 60-120 | 100-200 | 160-320 |

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