

## HIGH VOLTAGE APPLICATION

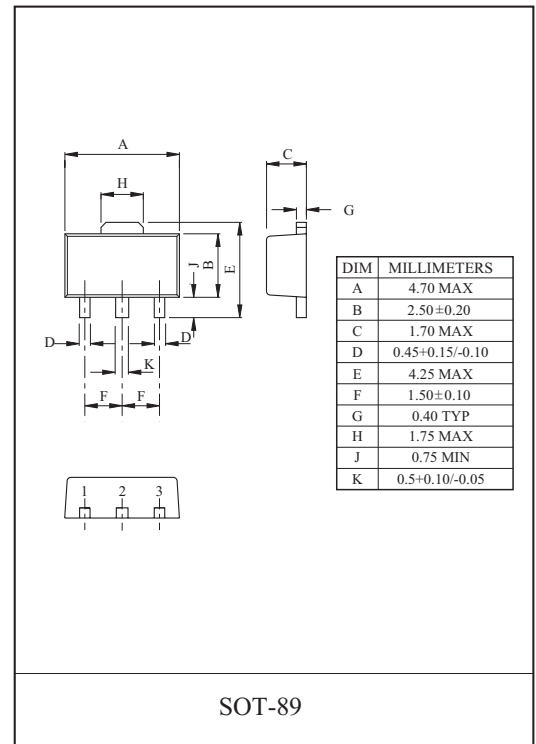
## FEATURES

- High Voltage :  $V_{CEO}=160V$ .
- Large Continuous Collector Current Capability.
- Recommended for LED Drive Application.

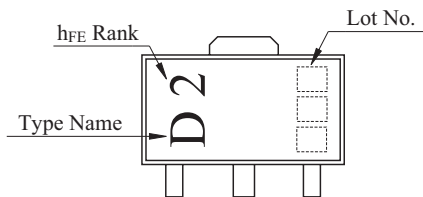
MAXIMUM RATING ( $T_a=25^\circ C$ )

| CHARACTERISTIC              | SYMBOL    | RATING  | UNIT |
|-----------------------------|-----------|---------|------|
| Collector-Base Voltage      | $V_{CBO}$ | 160     | V    |
| Collector-Emitter Voltage   | $V_{CEO}$ | 160     | V    |
| Emitter-Base Voltage        | $V_{EBO}$ | 6       | V    |
| Collector Current           | $I_C$     | 1       | A    |
| Base Current                | $I_B$     | 0.5     | A    |
| Collector Power Dissipation | $P_C$     | 0.5     | W    |
|                             | $P_C^*$   | 1       |      |
| Junction Temperature        | $T_j$     | 150     |      |
| Storage Temperature Range   | $T_{stg}$ | -55 150 |      |

\* : Mounted on ceramic substrate ( $250mm^2 \times 0.8t$ )



## Marking

ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

| CHARACTERISTIC                       | SYMBOL          | TEST CONDITION              | MIN. | TYP. | MAX. | UNIT    |
|--------------------------------------|-----------------|-----------------------------|------|------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$       | $V_{CB}=160V, I_E=0$        | -    | -    | 1.0  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$       | $V_{EB}=6V, I_C=0$          | -    | -    | 1.0  | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$   | $I_C=10mA, I_B=0$           | 160  | -    | -    | V       |
| DC Current Gain                      | $h_{FE}$ (Note) | $V_{CE}=5V, I_C=200mA$      | 160  | -    | 320  |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$   | $I_C=500mA, I_B=50mA$       | -    | -    | 1.5  | V       |
| Base-Emitter Voltage                 | $V_{BE}$        | $V_{CE}=5V, I_C=5mA$        | 0.45 | -    | 0.75 | V       |
| Transition Frequency                 | $f_T$           | $V_{CE}=5V, I_C=200mA$      | -    | 100  | -    | MHz     |
| Collector Output Capacitance         | $C_{ob}$        | $V_{CB}=10V, I_E=0, f=1MHz$ | -    | 15   | -    | pF      |

Note :  $h_{FE}$  Classification Y(2) : 160~320

