

isc Silicon NPN Darlington Power Transistor

2SD705

DESCRIPTION

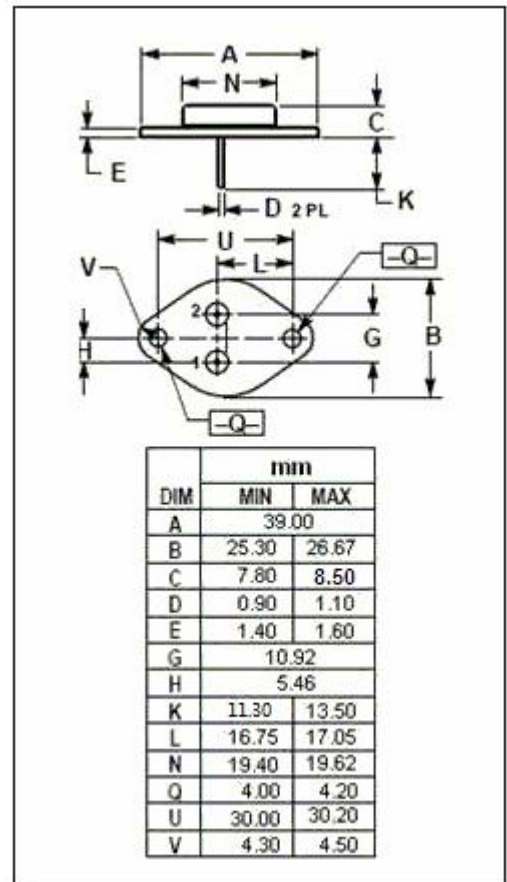
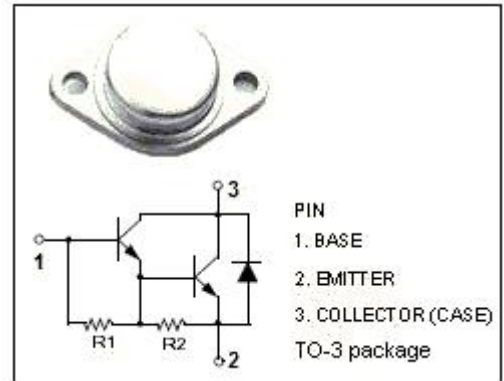
- Low Collector Saturation Voltage
- High DC Current Gain
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- High ruggedness electronic ignitions
- High voltage ignition coil driver
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---|---------|------|
| V _{CBO} | Collector-Base Voltage | 600 | V |
| V _{CEO} | Collector-Emitter Voltage | 500 | V |
| V _{EBO} | Emitter-Base Voltage | 10 | V |
| I _C | Collector Current | 8 | A |
| I _B | Base Current | 1 | A |
| P _C | Collector Power Dissipation @T _C =25°C | 80 | W |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature Range | -65~150 | °C |



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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|---|------|------|-----|------|
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 4A; I _B = 40mA | | | 1.5 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 4A; I _B = 40mA | | | 2.0 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} =600V; I _E =0 | | | 0.1 | mA |
| I _{CEO} | Collector Cutoff Current | V _{CE} = 500V; I _B = 0 | | | 0.5 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 10V; I _C = 0 | | | 20 | mA |
| h _{FE-1} | DC Current Gain | I _C = 4A; V _{CE} = 1.5V | 1000 | | | |
| h _{FE-2} | DC Current Gain | I _C = 6A; V _{CE} = 1.5V | 300 | | | |

Switching times

| | | | | | | |
|------------------|--------------|--|--|--|-----|-----|
| t _{on} | Turn-on Time | I _C = 4A , I _{B1} = I _{B2} = 40mA | | | 3.0 | μ s |
| t _{stg} | Storage Time | | | | 8.0 | μ s |
| t _f | Fall Time | | | | 5.0 | μ s |

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