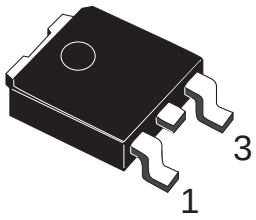
# MJD340
# MJD350

## COMPLEMENTARY SILICON POWER TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES
- MEDIUM VOLTAGE CAPABILITY
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICAL SIMILAR TO MJE340 AND MJE350



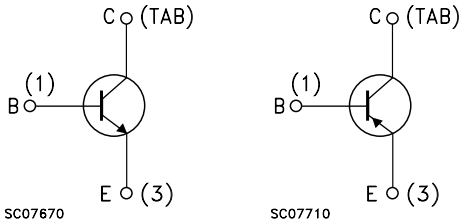

**DPAK**
**TO-252**
(Suffix "T4")

### APPLICATIONS
- SOLENOID/RELAY DRIVERS
- GENERAL PURPOSE SWITCHING AND AMPLIFIER

### DESCRIPTION
The MJD340 and MJD350 form complementary NPN - PNP pairs.

They are manufactured using Medium Voltage Epitaxial-Planar technology, resulting in a rugged high performance cost-effective transistor.

**INTERNAL SCHEMATIC DIAGRAM**




### ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| | | NPN | MJD340 | |
| | | PNP | MJD350 | |
| $V_{CBO}$ | Collector-Base Voltage (IE = 0) | | 300 | V |
| $V_{CEO}$ | Collector-Emitter Voltage ($I_B$ = 0) | | 300 | V |
| $V_{EBO}$ | Emitter-Base Voltage (IC = 0) | | 3 | V |
| $I_C$ | Collector Current | | 0.5 | A |
| $I_{CM}$ | Collector Peak Current (tp = 25 $^oC$) | | 0.75 | A |
| $P_{tot}$ | Total Power Dissipation at $T_{case} \leq 25\ ^oC$ | | 15 | W |
| $T_{stg}$ | Storage Temperature | | -65 to 150 | $^oC$ |
| $T_j$ | Max Operating Junction Temperature | | 150 | $^oC$ |

For PNP types voltage and current values are negative.

## THERMAL DATA

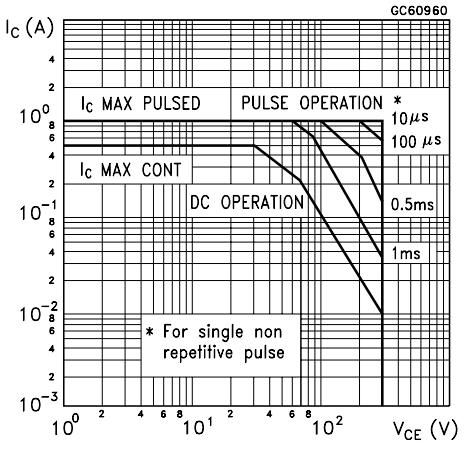
| | | | | |
|---|---|---|---|---|
| $R_{thj\text{-}case}$ | Thermal Resistance Junction-case | Max | 8.33 | $^oC/W$ |
| $R_{thj\text{-}amb}$ | Thermal Resistance Junction-ambient | Max | 100 | $^oC/W$ |

## ELECTRICAL CHARACTERISTICS ($T_{case}$ = 25 $^oC$ unless otherwise specified)

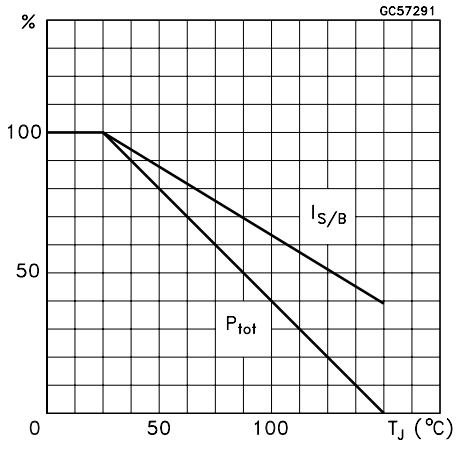
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $I_{CBO}$ | Collector Cut-off Current ($v_{BE}$ = 0) | $V_{CB}$ = 300 V | | | 0.1 | mA |
| $I_{EBO}$ | Emitter Cut-off Current ($I_C$ = 0) | $V_{EB}$ = 3 V | | | 0.1 | mA |
| $V_{CEO(sus)}$* | Collector-Emitter Sustaining Voltage ($I_B$ = 0) | $I_C$ = 1 mA | 300 | | | V |
| $h_{FE}$* | DC Current Gain | $I_C$ = 50 mA $V_{CE}$ = 10 V | 30 | | 240 | |

* Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %
For PNP type voltage and current values are negative.

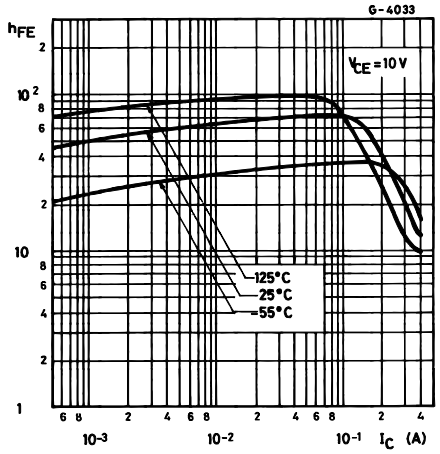
Safe Operating Area



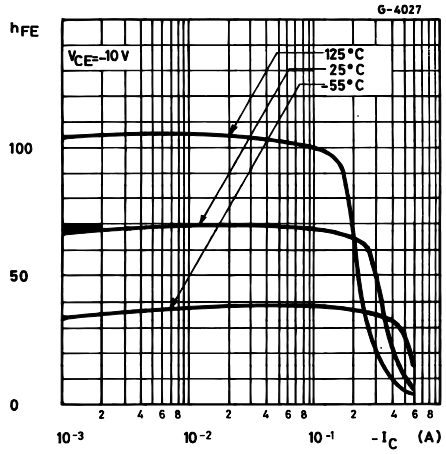

Derating Curve



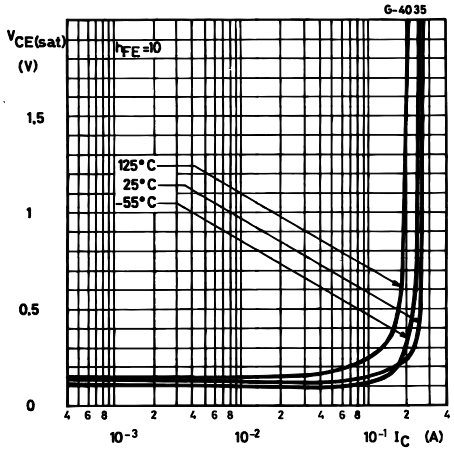
DC Current Gain (NPN type)



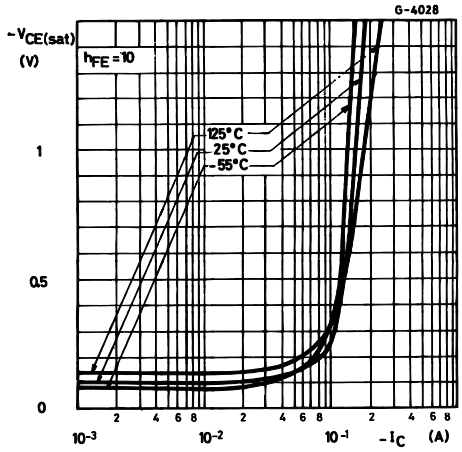

DC Current Gain (PNP type)




Collector Emitter Saturation Voltage (NPN type)




Collector Emitter Saturation Voltage (PNP type)



## TO-252 (DPAK) MECHANICAL DATA

| DIM. | mm | | | inch | | |
|---|---|---|---|---|---|---|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 2.20 | | 2.40 | 0.087 | | 0.094 |
| A1 | 0.90 | | 1.10 | 0.035 | | 0.043 |
| A2 | 0.03 | | 0.23 | 0.001 | | 0.009 |
| B | 0.64 | | 0.90 | 0.025 | | 0.035 |
| B2 | 5.20 | | 5.40 | 0.204 | | 0.213 |
| C | 0.45 | | 0.60 | 0.018 | | 0.024 |
| C2 | 0.48 | | 0.60 | 0.019 | | 0.024 |
| D | 6.00 | | 6.20 | 0.236 | | 0.244 |
| E | 6.40 | | 6.60 | 0.252 | | 0.260 |
| G | 4.40 | | 4.60 | 0.173 | | 0.181 |
| H | 9.35 | | 10.10 | 0.368 | | 0.398 |
| L2 | | 0.8 | | | 0.031 | |
| L4 | 0.60 | | 1.00 | 0.024 | | 0.039 |
| V2 | $0^o$ | | $8^o$ | $0^o$ | | $0^o$ |