

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

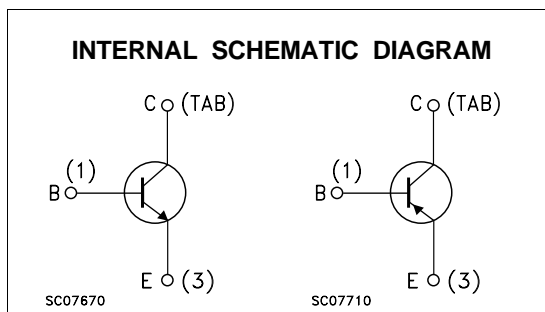
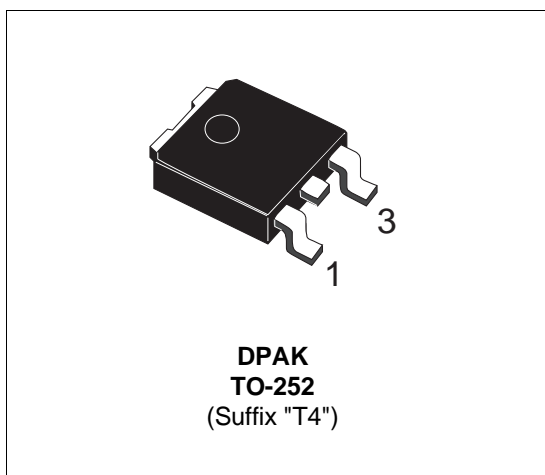
APPLICATIONS

- 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.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | Unit |
|------------------|--|-------|------------|------|
| | | NPN | MJD340 | |
| | | PNP | MJD350 | |
| V _{CBO} | Collector-Base Voltage (I _E = 0) | | 300 | V |
| V _{CEO} | Collector-Emitter Voltage (I _B = 0) | | 300 | V |
| V _{EBO} | Emitter-Base Voltage (I _C = 0) | | 3 | V |
| I _C | Collector Current | | 0.5 | A |
| I _{CM} | Collector Peak Current (t _p = 25 °C) | | 0.75 | A |
| P _{tot} | Total Power Dissipation at T _{case} ≤ 25 °C | | 15 | W |
| T _{stg} | Storage Temperature | | -65 to 150 | °C |
| T _j | Max Operating Junction Temperature | | 150 | °C |

For PNP types voltage and current values are negative.

MJD340 / MJD350

THERMAL DATA

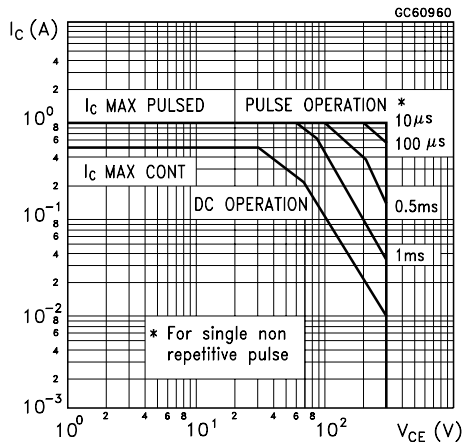
| | | | | |
|----------------|-------------------------------------|-----|------|---------------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 8.33 | $^{\circ}C/W$ |
| $R_{thj-amb}$ | Thermal Resistance Junction-ambient | Max | 100 | $^{\circ}C/W$ |

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

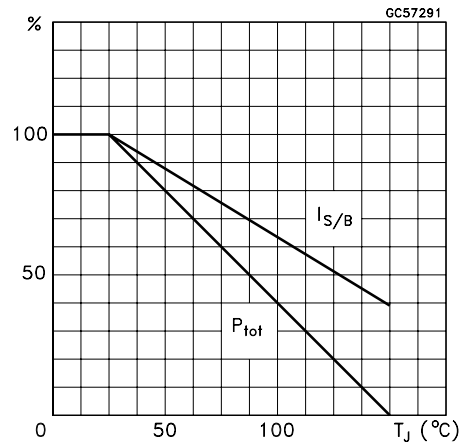
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--|-------------------------------|------|------|------|------|
| I_{CBO} | Collector Cut-off Current ($V_{BE} = 0$) | $V_{CB} = 300 V$ | | | 0.1 | mA |
| I_{EBO} | Emitter Cut-off Current ($I_C = 0$) | $V_{EB} = 3 V$ | | | 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 $\leq 2\%$
 For PNP type voltage and current values are negative.

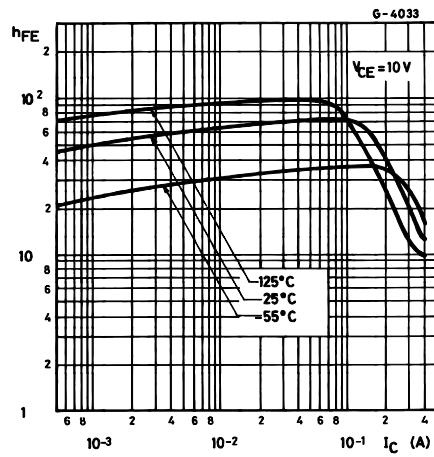
Safe Operating Area



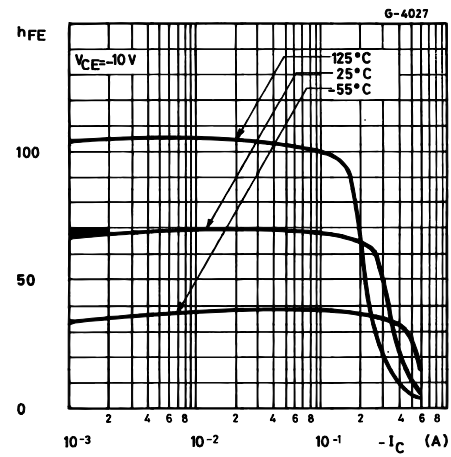
Derating Curve



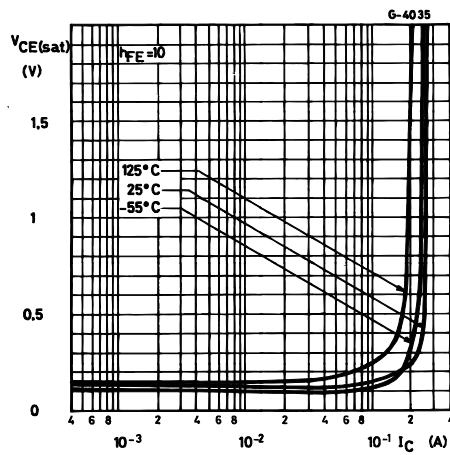
DC Current Gain (NPN type)



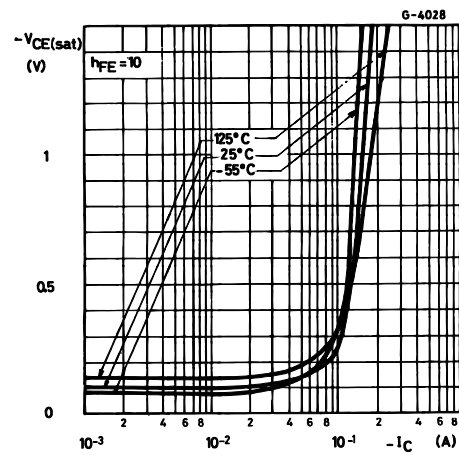
DC Current Gain (PNP type)



Collector Emitter Saturation Voltage (NPN type)

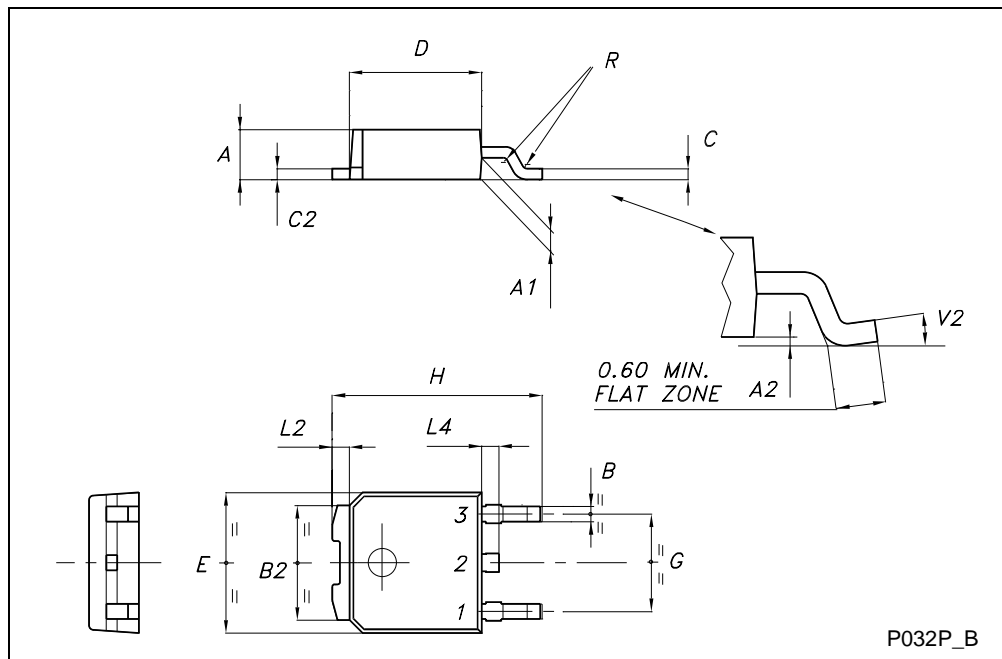


Collector Emitter Saturation Voltage (PNP type)



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° | | 8° | 0° | | 0° |



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