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NTE2680

Silicon NPN Transistor

Power, High Speed Switch w/Internal Damper Diode

TO3P(H)IS Type Package

Features:

- Collector–Emitter Sustaining Voltage: $V_{CEO(SUS)} = 800V$ Min.
- High Switching Speed
- Built–in Damper Diode

Applications:

- Horizontal Deflection Output for Color TV Receiver

Absolute Maximum Ratings: ($T_A = +25^\circ C$ unless otherwise specified)

| | |
|--|----------------|
| Collector–Emitter Voltage ($V_{BE} = 0$), V_{CES} | 1500V |
| Collector–Emitter Voltage, V_{CEO} | 800V |
| Emitter–Base Voltage, V_{EBO} | 8V |
| Collector Current, I_C | |
| Continuous | 8A |
| Peak | 15A |
| Base Current, I_B | |
| Continuous | 4A |
| Peak | 6A |
| Collector Power Dissipation ($T_C = +25^\circ C$), P_C | 45W |
| Operating Junction Temperature, T_J | +150°C |
| Storage Temperature Range, T_{stg} | –65° to +150°C |
| Thermal Resistance, Junction–to–Case, R_{thJC} | 2.8°C/W |

Electrical Characteristics: ($T_C = +25^\circ C$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------|-----------------------------------|-----|-----|------|------|
| Collector–Emitter Sustaining Voltage | $V_{CEO(SUS)}$ | $I_C = 100mA, I_B = 0, L = 25mH$ | 800 | – | – | V |
| Emitter–Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = 300mA, I_C = 0$ | 8 | – | – | V |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 5A, I_B = 1.25A$ | – | – | 3.0 | V |
| Base–Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 5A, I_B = 1.25A$ | – | – | 1.03 | V |
| Collector Cutoff Current | I_{CES} | $V_{CE} = 1500V,$ $V_{BE} = 0$ | – | – | 1.0 | mA |
| | | $T_C = +125^\circ C$ | – | – | 2.0 | mA |

Electrical Characteristics (Cont'd): ($T_C = +25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | | Min | Typ | Max | Unit |
|-----------------------|-----------|---|---------------|-----|-----|------|------|
| DC Current Gain | h_{FE} | $V_{CE} = 5V$ | $I_C = 500mA$ | 7.0 | - | - | |
| | | | $I_C = 5A$ | 4.2 | - | - | |
| Diode Forward Voltage | V_{ECF} | $I_F = 5A$ | | - | - | 2.2 | V |
| Storage Time | t_{stg} | $I_C = 5A, I_{B1} = 1A, I_{B2} = -2.5A$ | | - | - | 3.75 | s |
| Fall Time | t_f | | | - | - | 0.4 | s |

