

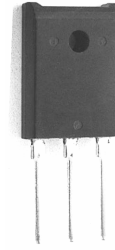


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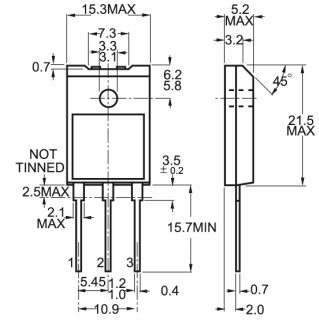
SILICON DIFFUSED POWER TRANSISTOR

GENERAL DESCRIPTION

High voltage, high-speed switching npn transistors in a plastic envelope with integrated efficiency, primarily for use in horizontal deflection circuits of colour television receivers



TOP-3Fa



QUICK REFERENCE DATA

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|-------------|---------------------------------------|--|-----|------|---------|
| V_{CESM} | Collector-emitter voltage peak value | $V_{BE} = 0V$ | - | 1500 | V |
| V_{CEO} | Collector-emitter voltage (open base) | | - | 600 | V |
| I_C | Collector current (DC) | | - | 8 | A |
| I_{CM} | Collector current peak value | | - | 15 | A |
| P_{tot} | Total power dissipation | $T_{mb} \leq 25^\circ C$ | - | 60 | W |
| V_{CEsat} | Collector-emitter saturation voltage | $I_C = 4.5A; I_B = 2.0A$ | - | 1.5 | V |
| I_{csat} | Collector saturation current | $f = 16KHz$ | - | - | A |
| V_F | Diode forward voltage | $I_F = 4.0A$ | - | 2.0 | V |
| t_f | Fall time | $I_C = 4.5A, I_{B1} = -I_{B2} = 1.2A, V_{CC} = 140V$ | - | 1.0 | μs |

LIMITING VALUES

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|------------|---------------------------------------|--------------------------|-----|------|------------|
| V_{CESM} | Collector-emitter voltage peak value | $V_{BE} = 0V$ | - | 1500 | V |
| V_{CEO} | Collector-emitter voltage (open base) | | - | 600 | V |
| I_C | Collector current (DC) | | - | 8 | A |
| I_{CM} | Collector current peak value | | - | 15 | A |
| I_B | Base current (DC) | | - | 4 | A |
| I_{BM} | Base current peak value | | - | 6 | A |
| P_{tot} | Total power dissipation | $T_{mb} \leq 25^\circ C$ | - | 60 | W |
| T_{sto} | Storage temperature | | -55 | 150 | $^\circ C$ |
| T_j | Junction temperature | | - | 150 | $^\circ C$ |

ELECTRICAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|----------------|---|--|-----|-----|---------|
| I_{CE} | Collector cut-off current | $V_{BE} = 0V; V_{CE} = V_{CESMmax}$ | - | 1.0 | mA |
| I_{CES} | Collector cut-off current | $V_{BE} = 0V; V_{CE} = V_{CESMmax}$ | - | 2.0 | mA |
| $V_{CEO sust}$ | Collector-emitter sustaining voltage | $T_j = 125^\circ C$ $I_B = 0A; I_C = 100mA$ $L = 25mH$ | - | - | V |
| V_{CEsat} | Collector-emitter saturation voltages | $I_C = 4.5A; I_B = 2.0A$ | - | 1.5 | V |
| V_{BEsat} | Base-emitter saturation voltage | $I_C = 4.5A; I_B = 2.0A$ | - | 2.5 | V |
| h_{FE} | DC current gain | $I_C = 1A; V_{CE} = 5V$ | 8 | 30 | |
| V_F | Diode forward voltage | $I_F = 4.0A$ | - | 2.0 | V |
| f_T | Transition frequency at $f = 1MHz$ | $I_C = 0.1A; V_{CE} = 10V$ | 3 | - | MHz |
| C_c | Collector capacitance at $f = 1MHz$ | $V_{CB} = 10V$ | - | 135 | pF |
| t_s | Switching times (16KHz line deflection circuit) | $I_C = 4.5A, I_{B1} = -I_{B2} = 1.2A, V_{CC} = 140V$ | - | 7.0 | μs |
| t_f | Turn-off storage time / Turn-off fall time | $I_C = 4.5A, I_{B1} = -I_{B2} = 1.2A, V_{CC} = 140V$ | - | 1.0 | μs |