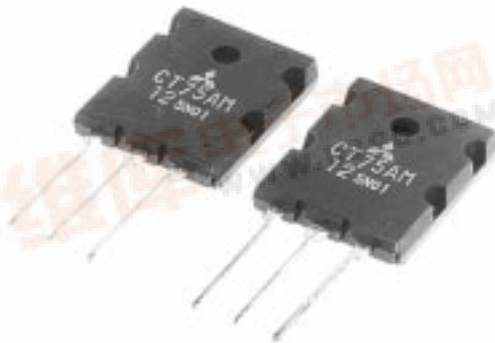


MITSUBISHI INSULATED GATE BIPOLAR TRANSISTOR

CT75AM-12

GENERAL INVERTER • UPS USE

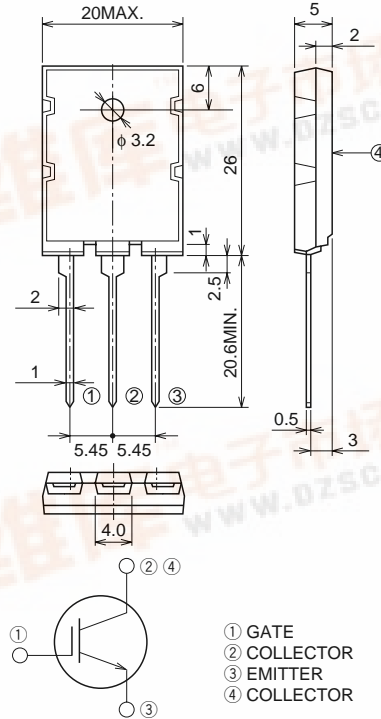
CT75AM-12



- VCES 600V
- IC 75A
- High Speed Switching
- Low VCE Saturation Voltage

OUTLINE DRAWING

Dimensions in mm



TO-3PL

APPLICATION

AC & DC motor controls, General purpose inverters, UPS, Power supply switching, Servo controls, etc.

MAXIMUM RATINGS (Tc = 25°C)

| Symbol | Parameter | Conditions | Ratings | Unit |
|-------------------|----------------------------|----------------------|------------|------|
| V _{CE} S | Collector-emitter voltage | V _{GE} = 0V | 600 | V |
| V _{GE} S | Gate-emitter voltage | V _{CE} = 0V | ±20 | V |
| V _{GEM} | Peak gate-emitter voltage | V _{CE} = 0V | ±30 | V |
| I _C | Collector current | | 75 | A |
| I _{CM} | Collector current (Pulsed) | | 150 | A |
| P _C | Maximum power dissipation | | 300 | W |
| T _j | Junction temperature | | -40 ~ +150 | °C |
| T _{stg} | Storage temperature | | -40 ~ +150 | °C |
| — | Weight | Typical value | 9.8 | g |

MITSUBISHI INSULATED GATE BIPOLAR TRANSISTOR

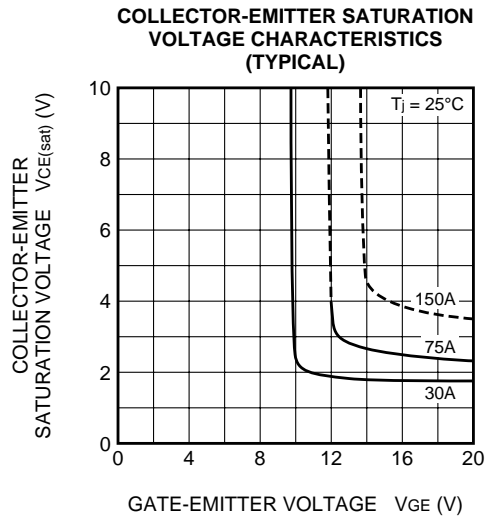
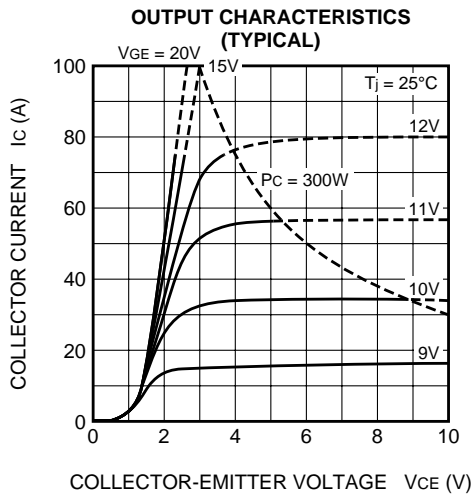
CT75AM-12

GENERAL INVERTER • UPS USE

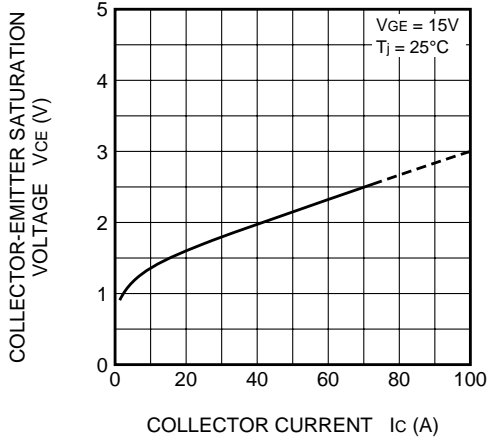
ELECTRICAL CHARACTERISTICS (T_j = 25°C)

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|----------------------|--------------------------------------|--|------------------|------|------|------|
| | | | Min. | Typ. | Max. | |
| V(BR)CES | Collector-emitter breakdown voltage | I _c = 1mA, V _{GE} = 0V | 600 | — | — | V |
| I _{GES} | Collector-emitter leakage current | V _{GE} = ±30V, V _{CE} = 0V | — | — | ±0.5 | μA |
| I _{CES} | Gate-emitter leakage current | V _{CE} = 600V, V _{GE} = 0V | — | — | 1 | mA |
| V _{GE(th)} | Gate-emitter threshold voltage | I _c = 7.5mA, V _{CE} = 10V | 4.5 | 6.0 | 7.5 | V |
| V _{CE(sat)} | Collector-emitter saturation voltage | I _c = 75A, V _{GE} = 15V | — | 2.5 | 3.0 | V |
| C _{ies} | Input capacitance | V _{CE} = 25V, V _{GE} = 0V, f = 1MHz | — | 3100 | — | pF |
| C _{oes} | Output capacitance | | — | 400 | — | pF |
| C _{res} | Reverse transfer capacitance | | — | 130 | — | pF |
| t _{d(on)} | Turn-on delay time | V _{CC} = 300V, Resistance load, I _c = 75A, V _{GE} = 15V, R _{GE} = 10Ω | — | 40 | — | ns |
| t _r | Rise time | | — | 265 | — | ns |
| t _{d(off)} | Turn-off delay time | | — | 175 | — | ns |
| t _f | Fall time | | — | 245 | — | ns |
| R _{th(j-c)} | Thermal resistance | | Junction to case | — | — | 0.42 |

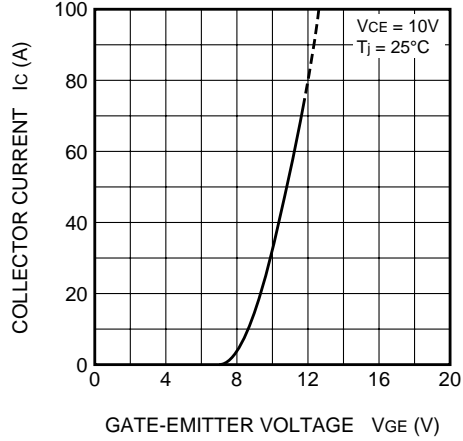
PERFORMANCE CURVES



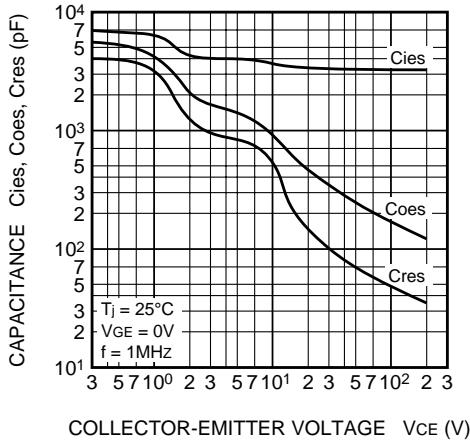
COLLECTOR-EMITTER SATURATION VOLTAGE CHARACTERISTICS (TYPICAL)



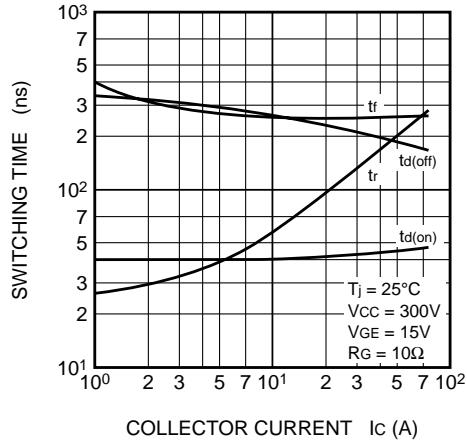
COLLECTOR CURRENT VS. GATE EMITTER VOLTAGE CHARACTERISTIC (TYPICAL)



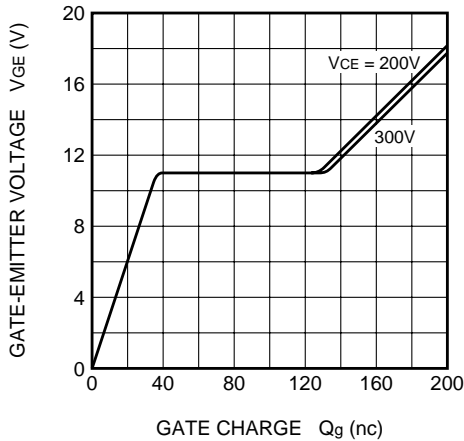
CAPACITANCE VS. COLLECTOR-EMITTER VOLTAGE CHARACTERISTIC (TYPICAL)



SWITCHING TIME-COLLECTOR CURRENT CHARACTERISTIC (TYPICAL)



GATE-EMITTER VOLTAGE VS. GATE CHARGE CHARACTERISTIC (TYPICAL)



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (TYPICAL)

