

MITSUBISHI Nch IGBT
CT90AM-18

INSULATED GATE BIPOLAR TRANSISTOR

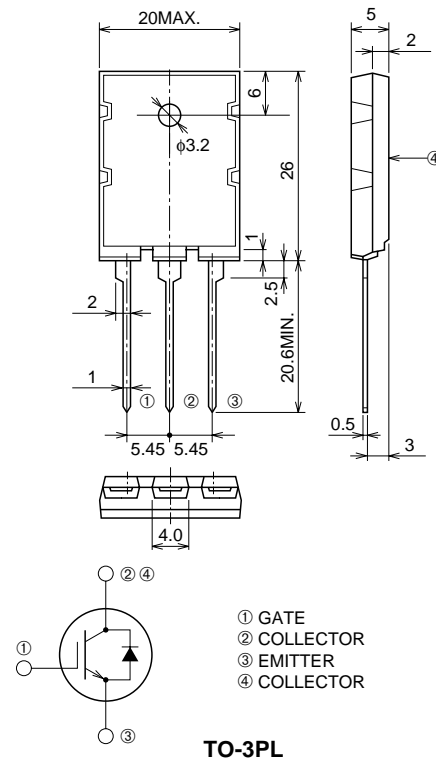
CT90AM-18



- VCES 900V
- IC 60A
- Simple drive
- Integrated Fast-recovery diode
- Small tail loss
- Low VCE Saturation Voltage

OUTLINE DRAWING

Dimensions in mm



APPLICATION

Microwave oven, Electromagnetic cooking devices, Rice-cookers

MAXIMUM RATINGS (Tc = 25°C)

| Symbol | Parameter | Conditions | Ratings | Unit |
|--------|----------------------------|------------|------------|------|
| VCES | Collector-emitter voltage | VGE = 0V | 900 | V |
| VGES | Gate-emitter voltage | | ±25 | V |
| VGEM | Peak gate-emitter voltage | | ±30 | V |
| IC | Collector current | | 60 | A |
| ICM | Collector current (Pulsed) | | 120 | A |
| IE | Emitter current | | 40 | A |
| PC | Maximum power dissipation | | 250 | W |
| Tj | Junction temperature | | -40 ~ +150 | °C |
| Tstg | Storage temperature | | -40 ~ +150 | °C |

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INSULATED GATE BIPOLAR TRANSISTOR

ELECTRICAL CHARACTERISTICS (T_j = 25°C)

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|------------|--------------------------------------|--|--------|-------|------|--------|
| | | | Min. | Typ. | Max. | |
| ICES | Collector-emitter leakage current | VCE = 900V, VGE = 0V | — | — | 1.0 | mA |
| IGES | Gate-emitter leakage current | VGE = ±20V, VCE = 0V | — | — | ±0.5 | μA |
| VGE (th) | Gate-emitter threshold voltage | VCE = 10V, IC = 6mA | 2.0 | 4.0 | 6.0 | V |
| VCE (sat) | Collector-emitter saturation voltage | IC = 60A, VGE = 15V | — | 1.55 | 1.95 | V |
| Cies | Input capacitance | VCE = 25V, VGE = 0V, f = 1MHz | — | 11000 | — | pF |
| Coes | Output capacitance | | — | 180 | — | pF |
| Cres | Reverse transfer capacitance | | — | 125 | — | pF |
| td (on) | Turn-on delay time | VCC = 300V, IC = 60A, VGE = 15V, RG = 0Ω | — | 0.05 | — | μs |
| tr | Turn-on rise time | | — | 0.10 | — | μs |
| td (off) | Turn-off delay time | | — | 0.20 | — | μs |
| tf | Turn-off fall time | | — | 0.30 | — | μs |
| Etail | Tail loss | ICP = 60A, Tj = 125°C, dv/dt = 200V/μs | — | 0.6 | 1.0 | mJ/pls |
| Itail | Tail current | | — | 6 | 12 | A |
| VEC | Emitter-collector voltage | IE = 60A, VGE = 0V | — | — | 3.0 | V |
| trr | Diode reverse recovery time | IE = 60A, dis/dt = -20A/μs | — | 0.5 | 2.0 | μs |
| Rth (ch-c) | Thermal resistance | Junction to case | — | — | 0.5 | °C/W |
| Rth (ch-c) | Thermal resistance | Junction to case | — | — | 4.0 | °C/W |