MITSUBISHI Nch IGBT

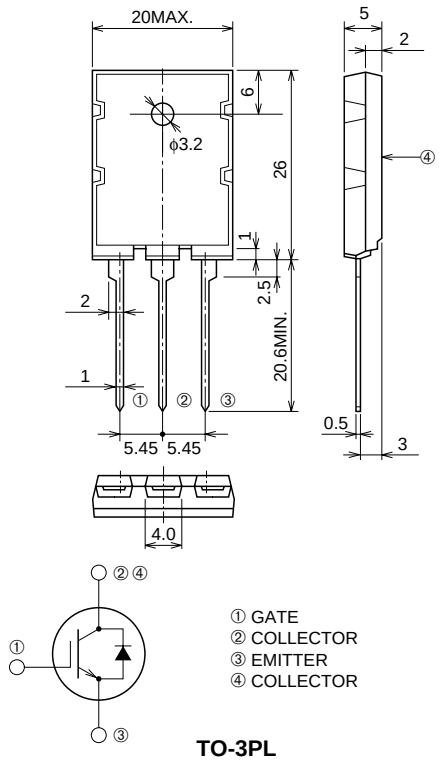
CT90AM-18

INSULATED GATE BIPOLAR TRANSISTOR

CT90AM-18

- V_{CES} 900V
- I_C 60A
- Simple drive
- Integrated Fast-recovery diode
- Small tail loss
- Low V_{CE} Saturation Voltage

OUTLINE DRAWING Dimensions in mm



TO-3PL

APPLICATION

Microwave oven, Electoromagnetic cooking devices, Rice-cookers

MAXIMUM RATINGS (T_c = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CES}	Collector-emitter voltage	V_{GE} = 0V	900	V
V_{GES}	Gate-emitter voltage		±25	V
V_{GEM}	Peak gate-emitter voltage		±30	V
I_C	Collector current		60	A
I_{CM}	Collector current (Pulsed)		120	A
I_E	Emitter current		40	A
P_C	Maximum power dissipation		250	W
T_j	Junction temperature		–40 ~ +150	°C
T_{stg}	Storage temperature		–40 ~ +150	°C

MITSUBISHI ELECTRIC

ELECTRICAL CHARACTERISTICS (T_j = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I_{CES}	Collector-emitter leakage current	V_{CE} = 900V, V_{GE} = 0V	—	—	1.0	mA
I_{GES}	Gate-emitter leakage current	V_{GE} = ±20V, V_{CE} = 0V	—	—	±0.5	µA
$V_{GE\ (th)}$	Gate-emitter threshold voltage	V_{CE} = 10V, I_C = 6mA	2.0	4.0	6.0	V
$V_{CE\ (sat)}$	Collector-emitter saturation voltage	I_C = 60A, V_{GE} = 15V	—	1.55	1.95	V
C_{ies}	Input capacitance	V_{CE} = 25V, V_{GE} = 0V, f = 1MHz	—	11000	—	pF
C_{oes}	Output capacitance		—	180	—	pF
C_{res}	Reverse transfer capacitance		—	125	—	pF
$t_{d\ (on)}$	Turn-on delay time	V_{CC} = 300V, I_C = 60A, V_{GE} = 15V, R_G = 0Ω	—	0.05	—	µs
t_r	Turn-on rise time		—	0.10	—	µs
$t_{d\ (off)}$	Turn-off delay time		—	0.20	—	µs
t_f	Turn-off fall time		—	0.30	—	µs
E_{tail}	Tail loss	I_{CP} = 60A, T_j = 125°C, dv/dt = 200V/µs	—	0.6	1.0	mJ/pls
I_{tail}	Tail current		—	6	12	A
V_{EC}	Emitter-collector voltage	I_E = 60A, V_{GE} = 0V	—	—	3.0	V
t_{rr}	Diode reverse recovery time	I_E = 60A, dis/dt = –20A/µs	—	0.5	2.0	µs
$R_{th\ (ch-c)}$	Thermal resistance	Junction to case	—	—	0.5	°C/W
$R_{th\ (ch-c)}$	Thermal resistance	Junction to case	—	—	4.0	°C/W