


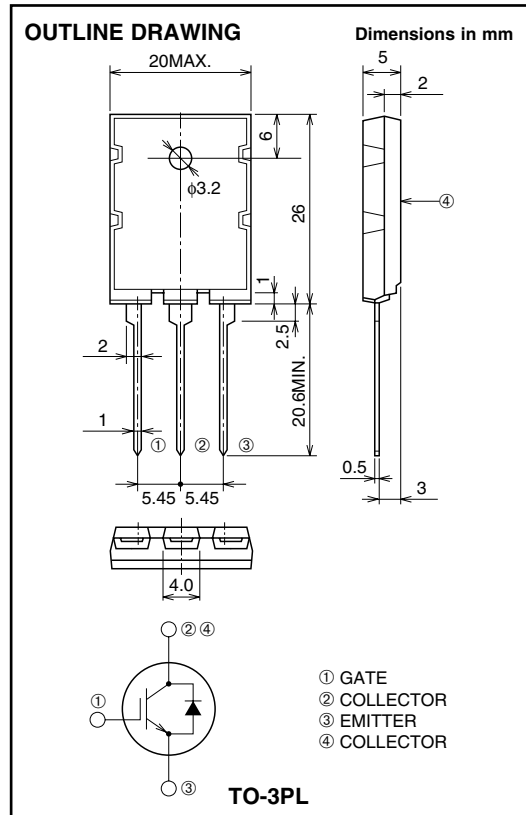
MITSUBISHI Nch IGBT
CT60AM-18F

INSULATED GATE BIPOLAR TRANSISTOR

CT60AM-18F



- VCES 900V
- IC 60A
- Integrated Fast-recovery diode
- Small tail loss
- Low VCE(sat)



APPLICATION

Microwave oven, Electromagnetic cooking devices, Rice-cookers

MAXIMUM RATINGS (Tc = 25°C)

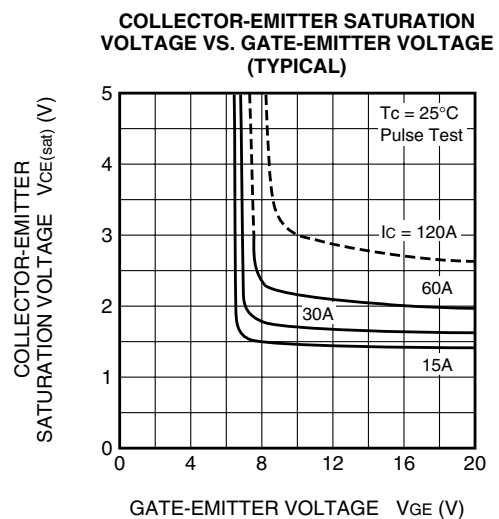
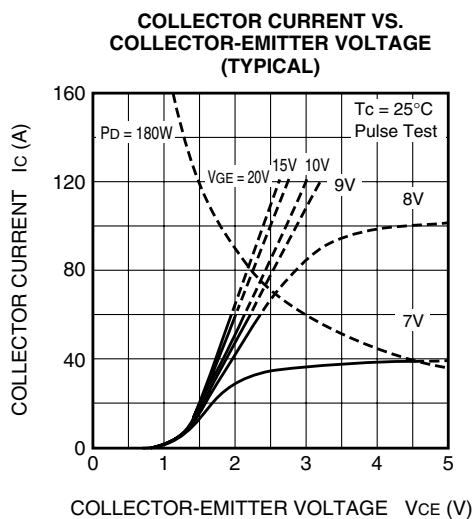
Symbol	Parameter	Conditions	Ratings	Unit
V _{CE} S	Collector-Emitter Voltage	V _{GE} = 0V	900	V
V _{GES}	Gate-Emitter Voltage		±25	V
V _{GEM}	Peak Gate-Emitter Voltage		±30	V
I _C	Collector Current		60	A
I _{CM}	Collector Current (Pulse)		120	A
I _E	Emitter Current		40	A
P _C	Maximum Power Dissipation		180	W
T _j	Junction Temperature		-40 ~ +150	°C
T _{stg}	Storage Temperature		-40 ~ +150	°C

INSULATED GATE BIPOLAR TRANSISTOR

ELECTRICAL CHARACTERISTICS (Tch = 25°C)

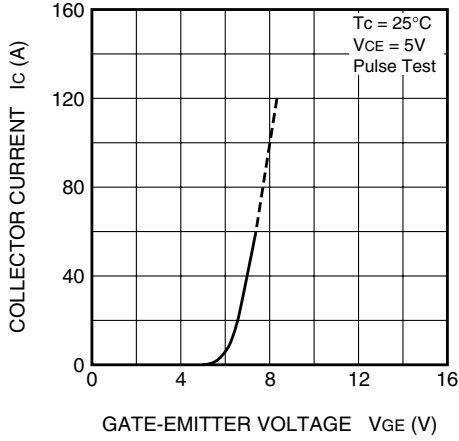
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
ICES	Collector-emitter leakage current	VCE = 900V, VGE = 0V	—	—	1.0	mA
IGES	Gate-emitter leakage current	VGE = ±20V, VCE = 0V	—	—	0.5	µA
VGE(th)	Gate-emitter threshold voltage	VCE = 10V, IC = 6mA	2.0	4.0	6.0	V
VCE(sat)	Collector-emitter saturation voltage	IC = 60A, VGE = 15V	—	2.1	2.7	V
Cies	Input capacitance	VCE = 25V, VGE = 0V, f = 1MHz	—	4400	—	pF
Coes	Output capacitance		—	115	—	pF
Cres	Reverse transfer capacitance		—	75	—	pF
td(on)	Turn-on delay time	VCC = 300V, IC = 60A, VGE = 15V, RG = 10Ω	—	0.05	—	µs
tr	Turn-on rise time		—	0.1	—	µs
td(off)	Turn-off delay time		—	0.2	—	µs
tf	Turn-off fall time		—	0.3	—	µs
Etail	Tail loss	ICP = 60A, Tj = 125°C, dv/dt = 200V/µs	—	0.6	1.0	mJ/pls
Itail	Tail current		—	6.0	12	A
VEC	Emitter-collector voltage	IE = 60A, VGE = 0V	—	2.2	3.0	V
trr	Diode reverse recovery time	IE = 60A, dis/dt = -20A/µs	—	0.5	2.0	µs
Rth(j-c)	Thermal resistance (IGBT)	Junction to case	—	—	0.69	°C/W
Rth(j-c)	Thermal resistance (Diode)	Junction to case	—	—	4.0	°C/W

PERFORMANCE CURVES

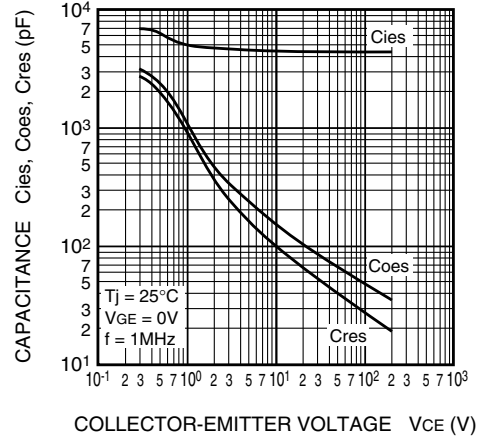


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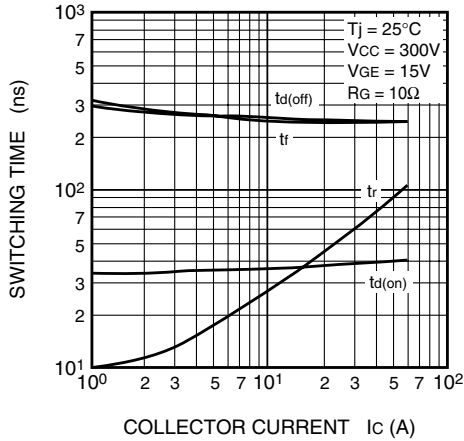
COLLECTOR CURRENT VS. GATE-EMITTER VOLTAGE (TYPICAL)



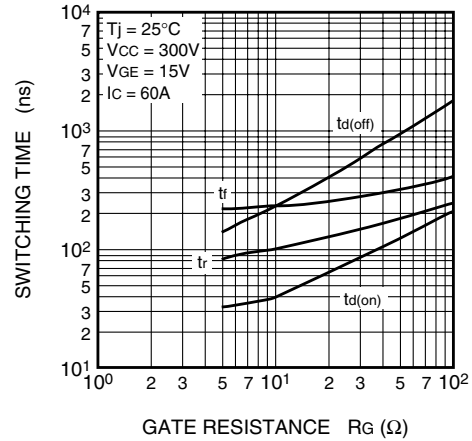
CAPACITANCE VS. COLLECTOR-EMITTER VOLTAGE (TYPICAL)



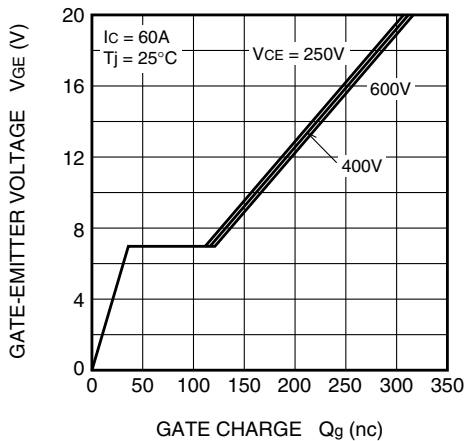
SWITCHING CHARACTERISTICS (TYPICAL)



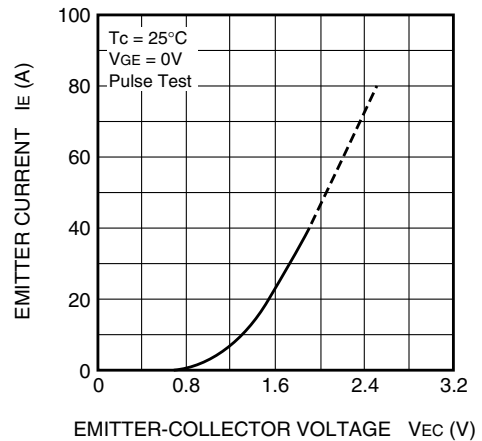
SWITCHING TIME VS. GATE RESISTANCE (TYPICAL)



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

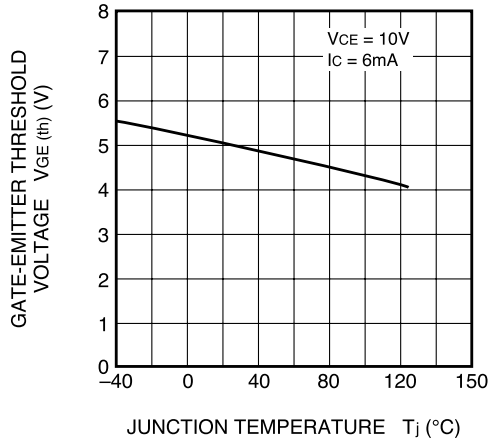


EMITTER CURRENT VS. EMITTER-COLLECTOR VOLTAGE (TYPICAL)

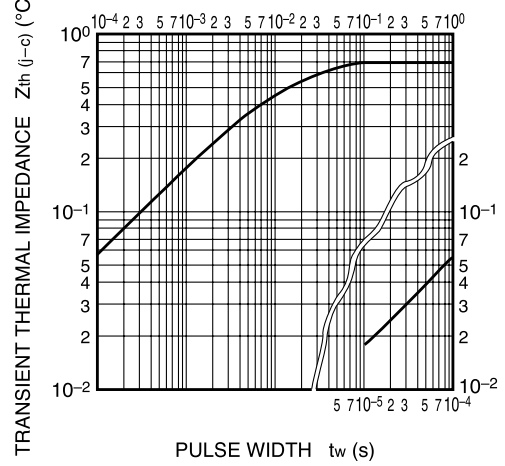


INSULATED GATE BIPOLAR TRANSISTOR

THRESHOLD VOLTAGE VS. JUNCTION TEMPERATURE (TYPICAL)



IGBT TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



DIODE TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

