

To all our customers

Regarding the change of names mentioned in the document, such as Mitsubishi Electric and Mitsubishi XX, to Renesas Technology Corp.

The semiconductor operations of Hitachi and Mitsubishi Electric were transferred to Renesas Technology Corporation on April 1st 2003. These operations include microcomputer, logic, analog and discrete devices, and memory chips other than DRAMs (flash memory, SRAMs etc.)

Accordingly, although Mitsubishi Electric, Mitsubishi Electric Corporation, Mitsubishi Semiconductors, and other Mitsubishi brand names are mentioned in the document, these names have in fact all been changed to Renesas Technology Corp. Thank you for your understanding. Except for our corporate trademark, logo and corporate statement, no changes whatsoever have been made to the contents of the document, and these changes do not constitute any alteration to the contents of the document itself.

Note : Mitsubishi Electric will continue the business operations of high frequency & optical devices and power devices.

Renesas Technology Corp.

Customer Support Dept.

April 1, 2003

勝特力材料 886-3-5753170
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MITSUBISHI Nch IGBT

CT60AM-18F

INSULATED GATE BIPOLAR TRANSISTOR

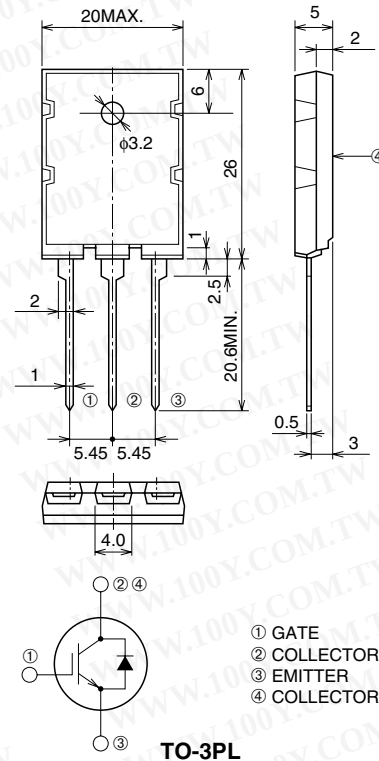
CT60AM-18F



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

OUTLINE DRAWING

Dimensions in mm



APPLICATION

Microwave oven, Electromagnetic cooking devices, Rice-cookers

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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

Sep. 2001

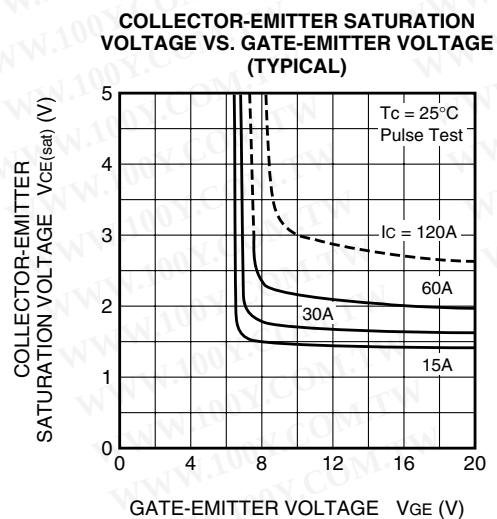
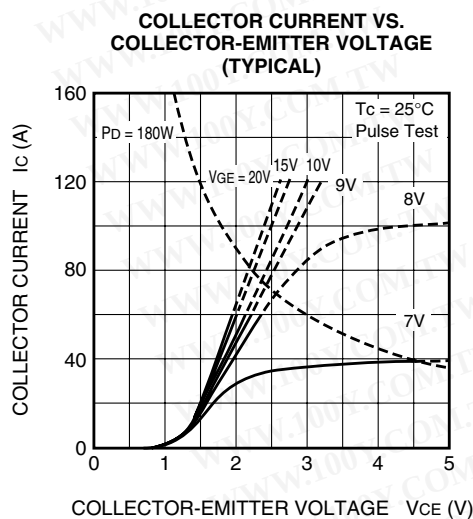
INSULATED GATE BIPOLAR TRANSISTOR

ELECTRICAL CHARACTERISTICS (T_{ch} = 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	ICP = 60A, TJ = 125°C, dv/dt = 200V/μs	—	0.3	—	μs
Etail	Tail loss		—	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
t _{rr}	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

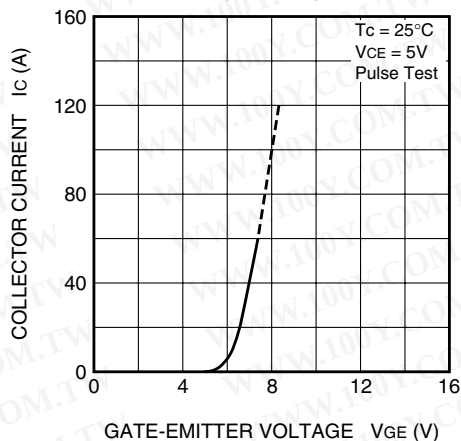
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PERFORMANCE CURVES

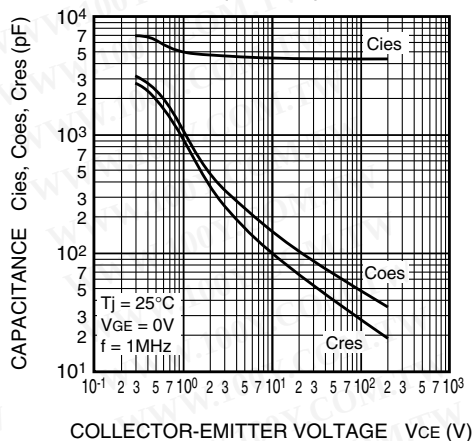


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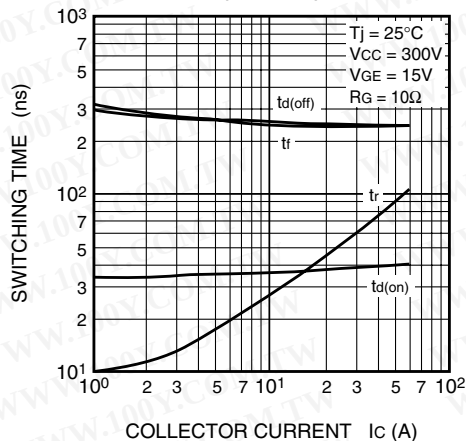
COLLECTOR CURRENT VS.
GATE-EMITTER VOLTAGE
(TYPICAL)



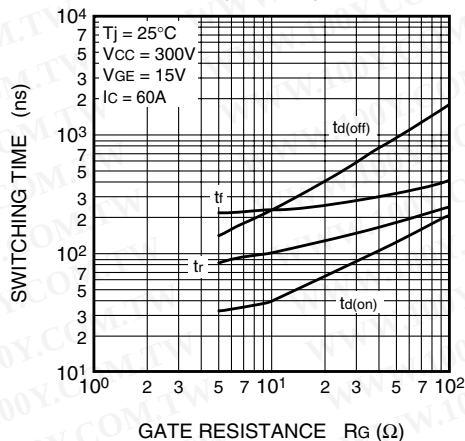
CAPACITANCE VS.
COLLECTOR-EMITTER VOLTAGE
(TYPICAL)



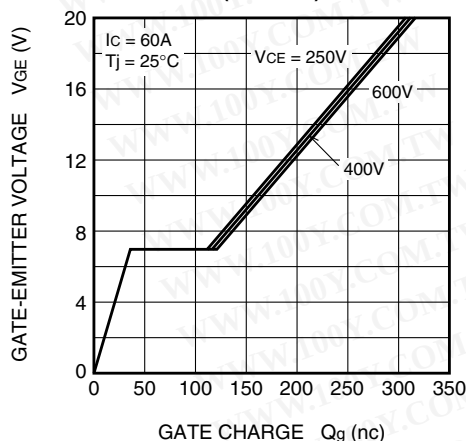
SWITCHING CHARACTERISTICS
(TYPICAL)



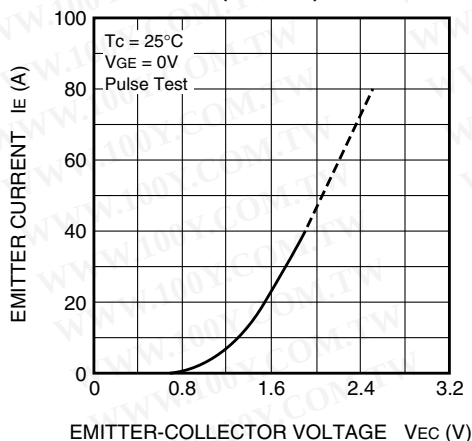
SWITCHING TIME VS. GATE RESISTANCE
(TYPICAL)



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

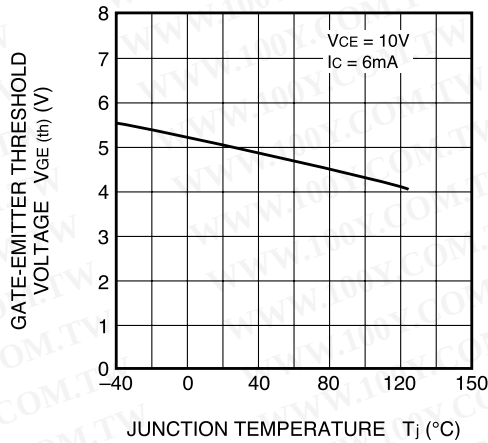


EMITTER CURRENT VS.
EMITTER-COLLECTOR VOLTAGE
(TYPICAL)

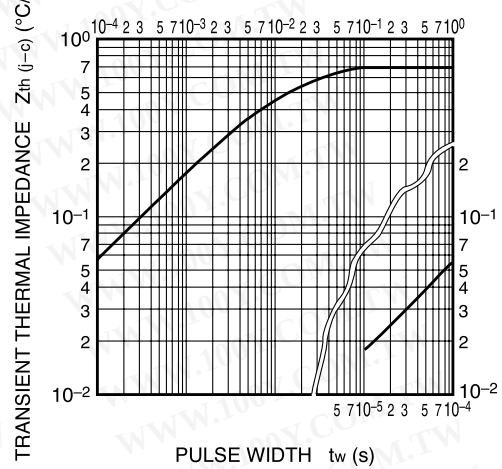


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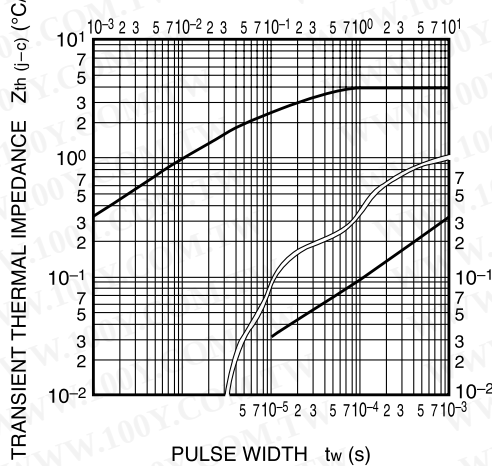
THRESHOLD VOLTAGE VS.
JUNCTION TEMPERATURE
(TYPICAL)



IGBT TRANSIENT THERMAL IMPEDANCE
CHARACTERISTICS



DIODE TRANSIENT THERMAL
IMPEDANCE CHARACTERISTICS



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