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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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CT60AM-18C

Insulated Gate Bipolar Transistor

REJ03G0287-0100

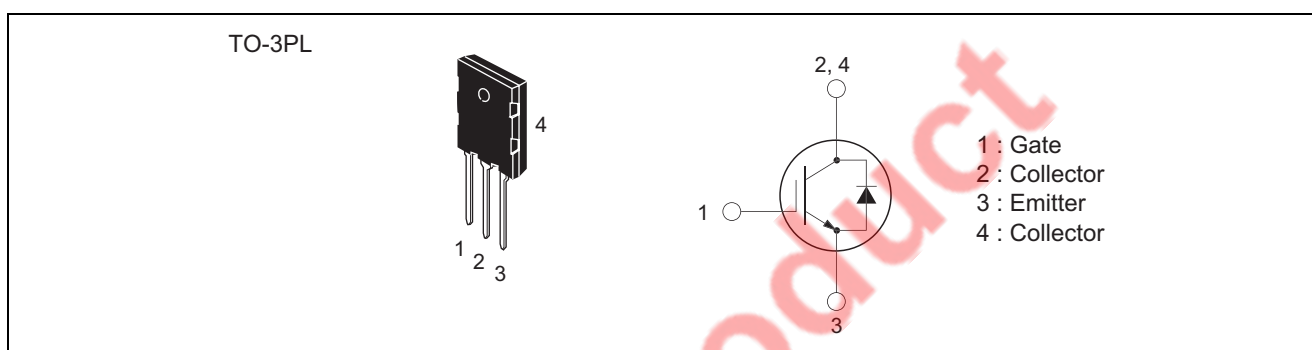
Rev.1.00

Aug.20.2004

Features

- V_{CES} : 900 V
- I_C : 60 A
- Integrated fast-recovery diode
- For voltage-resonance

Appearance Figure



Applications

Voltage-resonance type home appliances (Microwave ovens, IH cooking devices, IH rice-cookers)

Maximum Ratings

($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	900	V	$V_{GE} = 0\text{ V}$
Gate-emitter voltage	V_{GES}	± 20	V	$V_{CE} = 0\text{ V}$
Peak gate-emitter voltage	V_{GEM}	± 30	V	$V_{CE} = 0\text{ V}$
Collector current	I_C	60	A	
Collector current (Pulse)	I_{CM}	120	A	
Emitter current	I_E	40	A	
Maximum power dissipation	P_C	200	W	$T_c = 25^\circ\text{C}$
Junction temperature	T_j	- 40 to +150	$^\circ\text{C}$	
Storage temperature	T_{stg}	- 40 to +150	$^\circ\text{C}$	

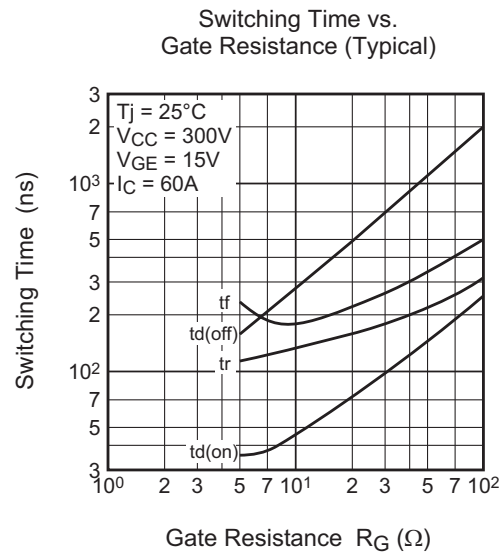
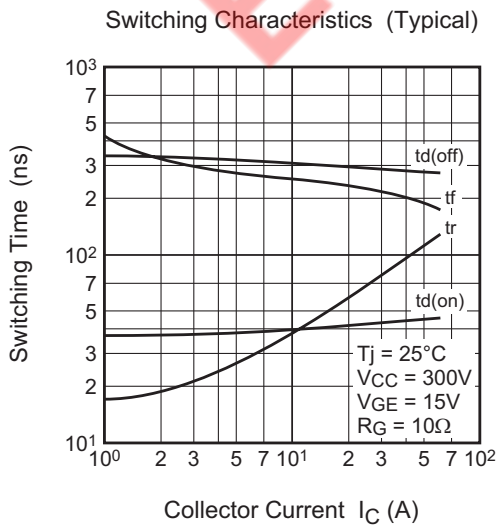
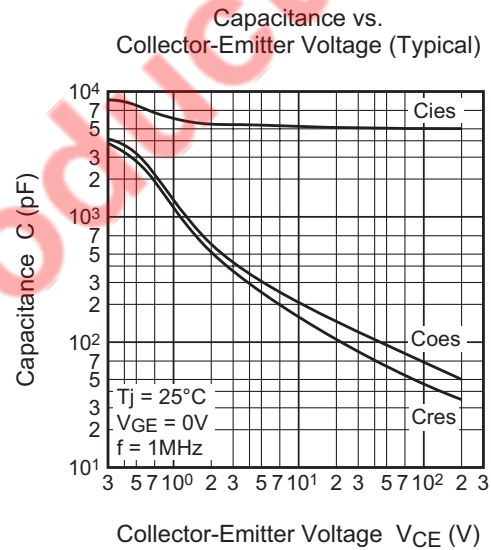
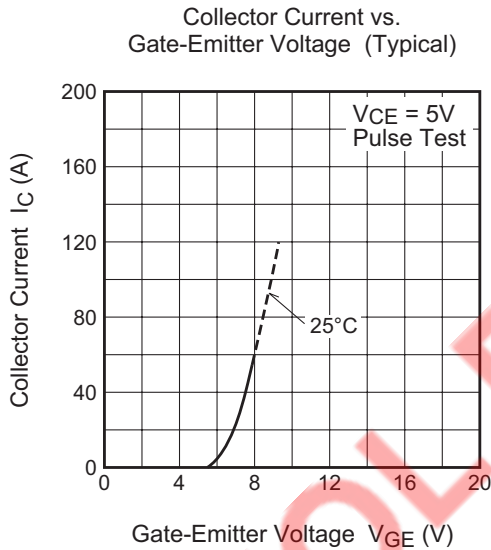
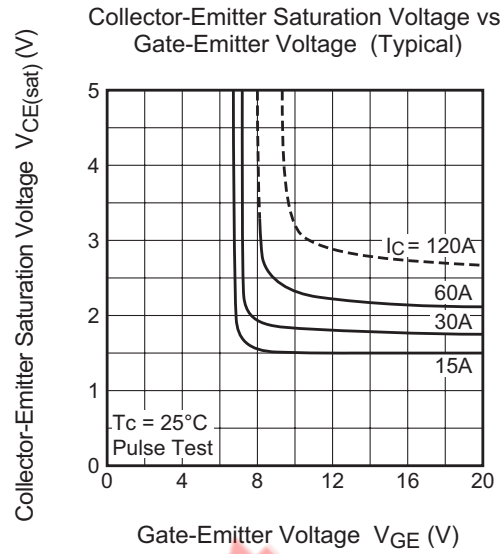
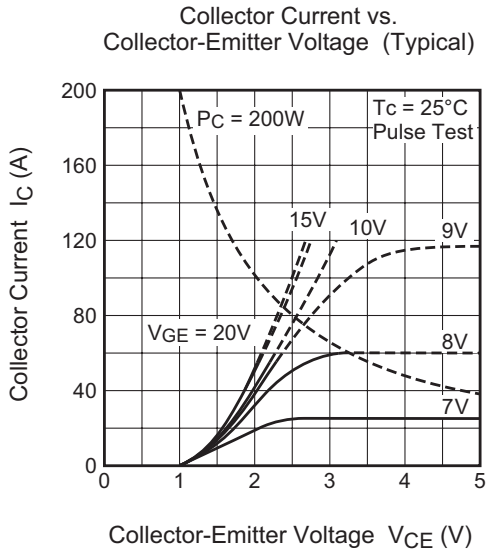
Electrical Characteristics

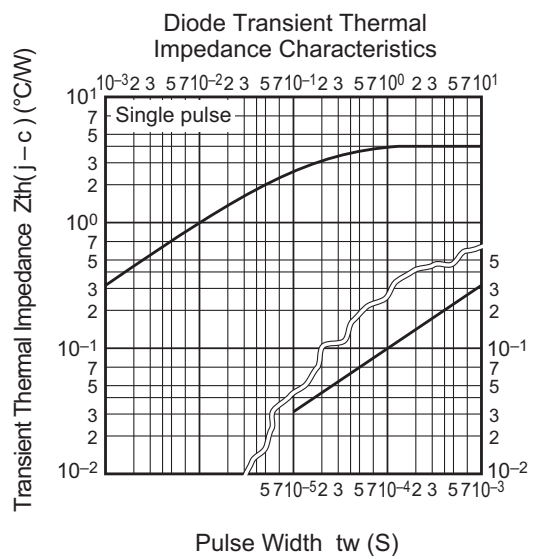
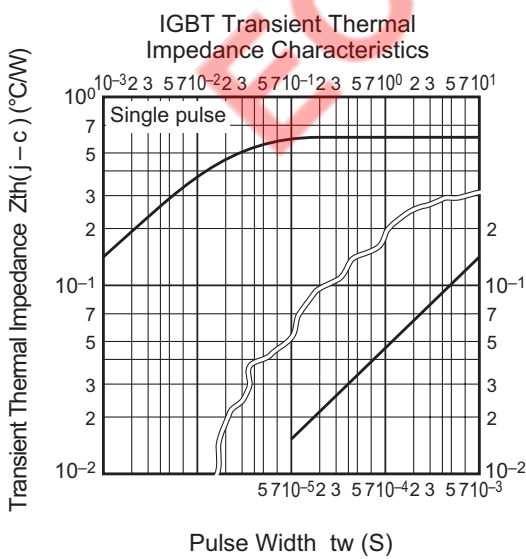
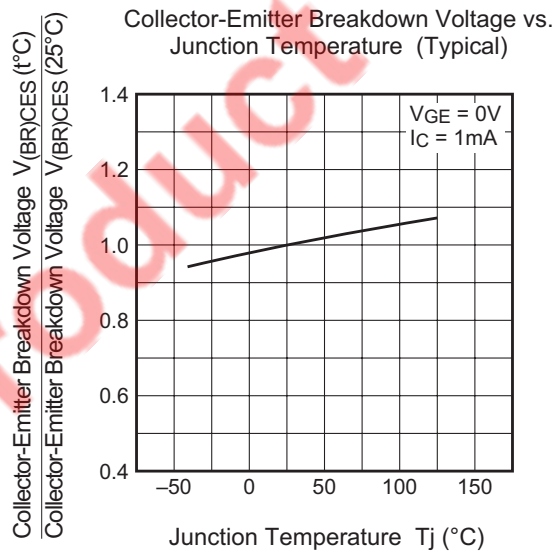
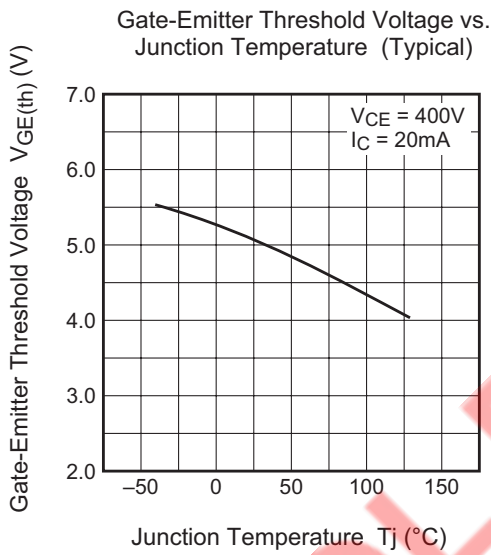
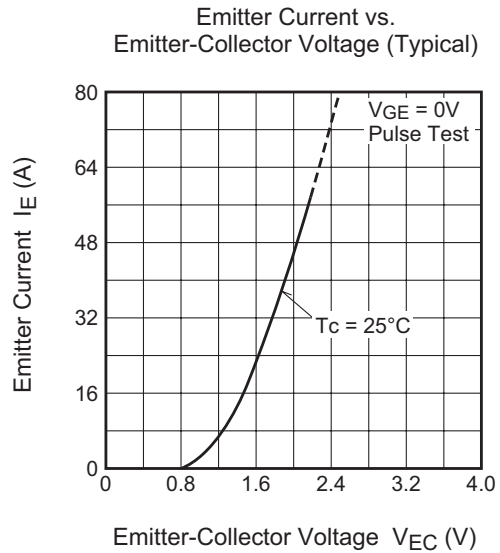
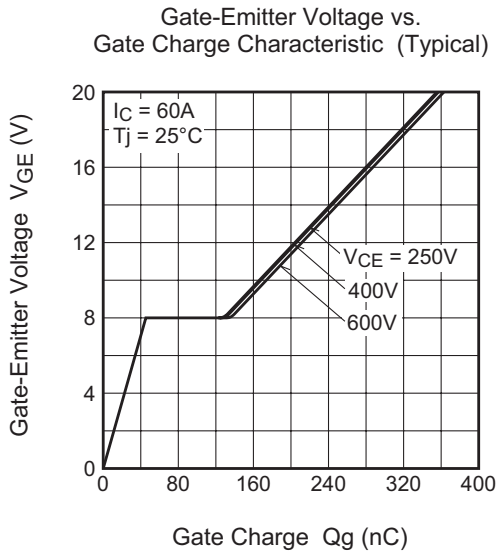
(Unless otherwise specified, T_j = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	V _{(BR)CES}	1000 ^{not e1}	—	—	V	I _C = 1 mA, V _{GE} = 0 V
Collector-emitter leakage current	I _{CES}	—	—	1	mA	V _{CE} = 900 V, V _{GE} = 0 V
Gate-emitter leakage current	I _{GES}	—	—	±0.5	μA	V _{GE} = ±20 V, V _{CE} = 0 V
Gate-emitter threshold voltage	V _{GE(th)}	2.0	4.0	6.0	V	I _C = 6 mA, V _{CE} = 10 V
Collector-emitter saturation voltage	V _{CE(sat)}	—	2.0	2.7	V	I _C = 60 A, V _{CE} = 15 V
Input capacitance	C _{iss}	—	5000	—	pF	V _{CE} = 25 V, V _{GE} = 0 V, f = 1MHz
Output capacitance	C _{oss}	—	125	—	pF	
Reverse transfer capacitance	C _{rss}	—	85	—	pF	
Turn-on delay time	t _{d(on)}	—	0.05	—	μs	I _C = 60 A, Resistive loads, V _{CC} = 300 V, V _{GE} = 15 V, R _G = 10 Ω
Rise time	t _r	—	0.12	—	μs	
Turn-off delay time	t _{d(off)}	—	0.30	—	μs	
Fall time	t _f	—	0.25	—	μs	
Tail loss	E _{tail}	—	0.6	1.0	mJ/pls	I _{CP} = 60 A, T _j = 125°C, dv/dt = 200 V/μs, Single-device voltage resonance circuit
Tail current	I _{tail}	—	6	12	A	
Emitter-collector voltage	V _{EC}	—	—	3	V	I _E = 60 A, V _{GE} = 0 V
Diode reverse recovery time	t _{rr}	—	0.5	2	μs	I _E = 60 A, di/dt = 20 A/μs
Thermal resistance (IGBT)	R _{th(j-c)}	—	—	0.625	°C/W	Junction to case
Thermal resistance (Diode)	R _{th(j-c)}	—	—	4.0	°C/W	Junction to case

Notes: 1 Selected value

Performance Curves





Package Dimensions

TO-3PL

EIAJ Package Code	JEDEC Code	Mass (g) (reference value)	Lead Material
—	—	9.8	Cu alloy

Note 1) The dimensional figures indicate representative values unless otherwise the tolerance is specified.

Symbol	Dimension in Millimeters		
	Min	Typ	Max
A	—	—	—
A ₁	—	—	—
A ₂	—	—	—
b	—	—	—
D	—	—	—
E	—	—	—
e	—	—	—
x	—	—	—
y	—	—	—
y ₁	—	—	—
ZD	—	—	—
ZE	—	—	—

Order Code

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Straight type	Plastic Magazine (Tube)	25	Type name	CT60AM-18C
Lead form	Plastic Magazine (Tube)	25	Type name – Lead forming code	CT60AM-18C-AD

Note : Please confirm the specification about the shipping in detail.

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