CT60AM-18F

Insulated Gate Bipolar Transistor

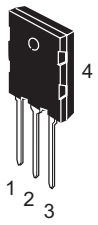
REJ03G1374-0200
(Previous: MEJ02G0023-0101)
Rev.2.00
Jul 07, 2006

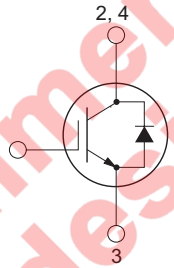
Features

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

Appearance Figure

RENESAS Package code: PRSS0004ZC-A
(Package name: TO-3PL)





1 : Gate
2 : Collector
3 : Emitter
4 : Collector

Applications

Microwave oven, Electromagnetic cooking devices, Rice-cookers

Maximum Ratings

(Tc = 25°C)

Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	900	V	V_{GE} = 0 V
Gate-emitter voltage	V_{GES}	±25	V	
Peak gate-emitter voltage	V_{GEM}	±30	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	180	W	
Junction temperature	Tj	– 40 to +150	°C	
Storage temperature	Tstg	– 40 to +150	°C	

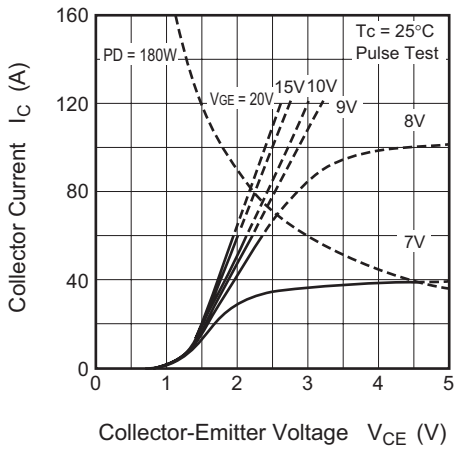
Electrical Characteristics

(Tch = 25°C)

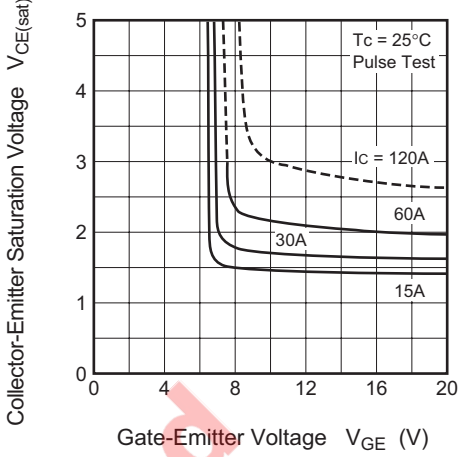
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter leakage current	I_{CES}	—	—	1	mA	V_{CE} = 900 V, V_{GE} = 0 V
Gate-emitter leakage current	I_{GES}	—	—	0.5	µA	V_{GE} = ±20 V, V_{CE} = 0 V
Gate-emitter threshold voltage	$V_{GE\ (th)}$	2.0	4.0	6.0	V	V_{CE} = 10 V, I_C = 6 mA
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	—	2.1	2.7	V	I_C = 60 A, V_{CE} = 15 V
Input capacitance	Cies	—	4400	—	pF	V_{CE} = 25 V, V_{GE} = 0 V, f = 1 MHz
Output capacitance	Coes	—	115	—	pF	
Reverse transfer capacitance	Cres	—	75	—	pF	
Turn-on delay time	$t_{d\ (on)}$	—	0.05	—	µs	V_{CC} = 300 V, I_C = 60 A, V_{GE} = 15 V, R_G = 10 Ω
Turn-on Rise time	t_r	—	0.1	—	µs	
Turn-off delay time	$t_{d\ (off)}$	—	0.2	—	µs	
Turn-off Fall time	t_f	—	0.3	—	µs	
Tail loss	E_{tail}	—	0.6	1.0	mJ/pls	I_{CP} = 60 A, Tj = 125°C, d_v/d_t = 200 V/µs
Tail current	I_{tail}	—	6.0	12	A	
Emitter-collector voltage	V_{EC}	—	2.2	3.0	V	I_E = 60 A, V_{GE} = 0 V
Diode reverse recovery time	t_{rr}	—	0.5	2.0	µs	I_E = 60 A, d_{iS}/d_t = –20 A/µs
Thermal resistance (IGBT)	$R_{th\ (j-c)}$	—	—	0.69	°C/W	Junction to case
Thermal resistance (Diode)	$R_{th\ (j-c)}$	—	—	4.0	°C/W	Junction to case

Performance Curves

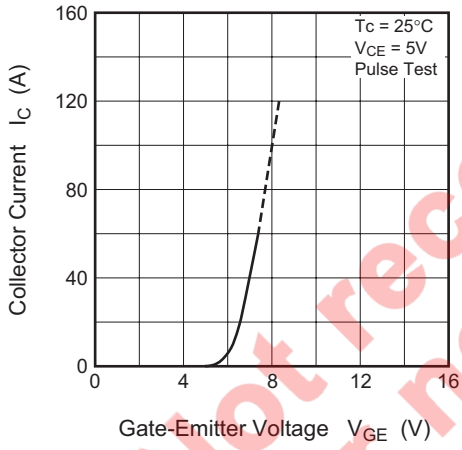
Collector Current vs.
Collector-Emitter Voltage (Typical)



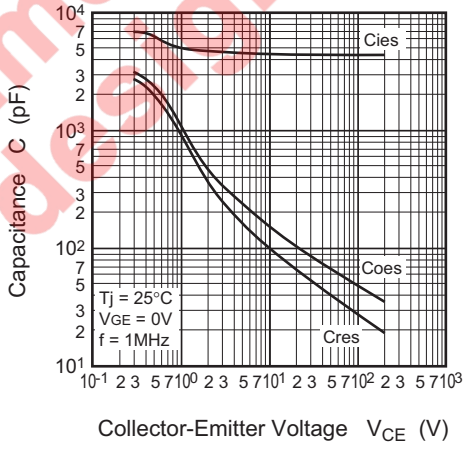
Collector-Emitter Saturation Voltage vs.
Gate-Emitter Voltage (Typical)



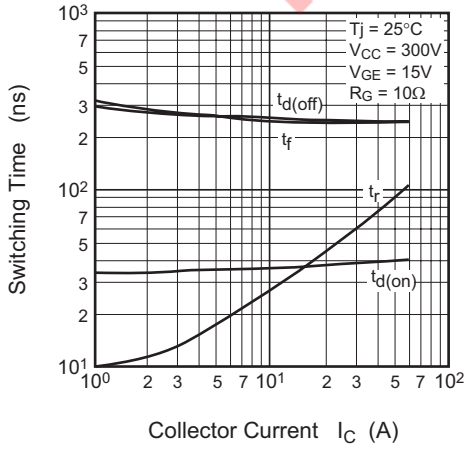
Collector Current vs.
Gate-Emitter Voltage (Typical)



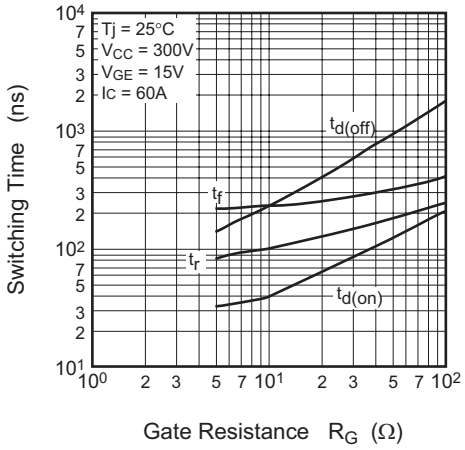
Capacitance vs.
Collector-Emitter Voltage (Typical)



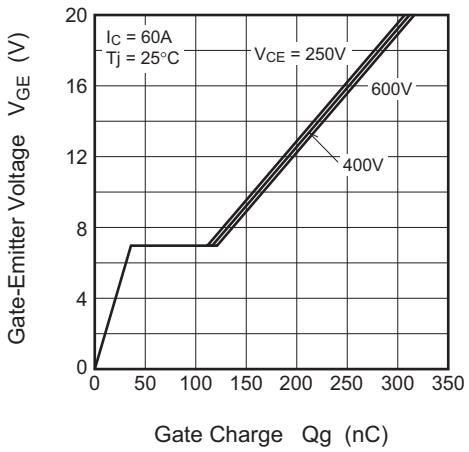
Switching Characteristics (Typical)



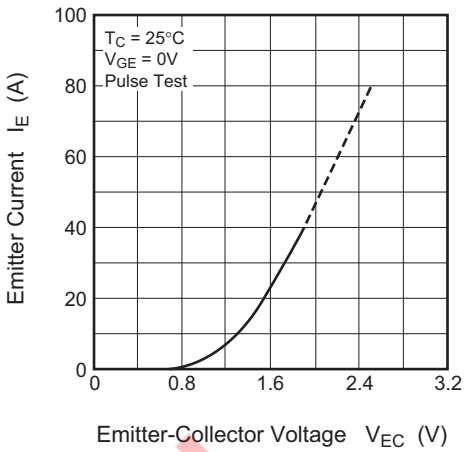
Switching Time vs.
Gate Resistance (Typical)



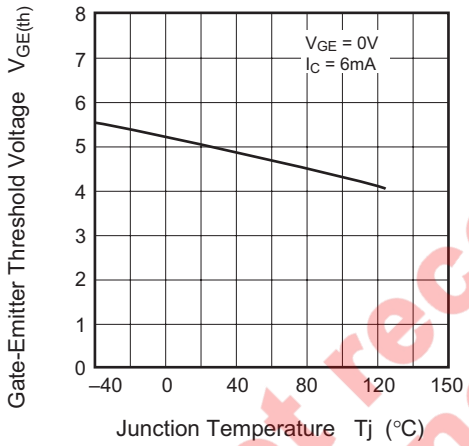
Gate-Emitter Voltage vs.
Gate Charge Characteristic (Typical)



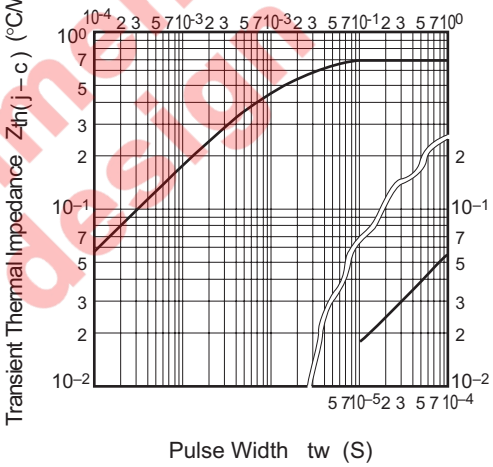
Emitter Current vs.
Emitter-Collector Voltage (Typical)



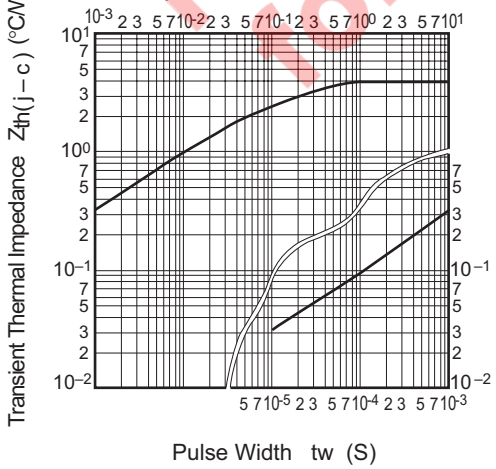
Gate-Emitter Threshold Voltage vs.
Junction Temperature (Typical)



IGBT Transient Thermal
Impedance Characteristics



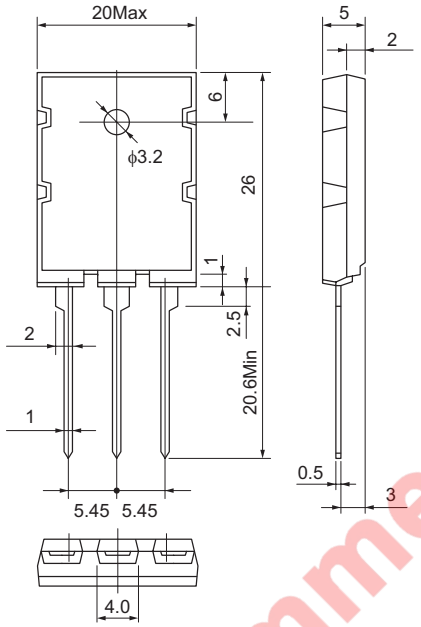
Diode Transient Thermal
Impedance Characteristics



Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-3PL*	—	PRSS0004ZC-A	—	9.8g

Unit: mm



Ordering Information

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

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

Renesas Technology Corp. Sales Strategic Planning Div. Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan

RENESAS SALES OFFICES

http://www.renesas.com

Refer to "**http://www.renesas.com/en/network**" for the latest and detailed information.

Renesas Technology America, Inc.
450 Holger Way, San Jose, CA 95134-1368, U.S.A
Tel: <1> (408) 382-7500, Fax: <1> (408) 382-7501

Renesas Technology Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K.
Tel: <44> (1628) 585-100, Fax: <44> (1628) 585-900

Renesas Technology (Shanghai) Co., Ltd.
Unit 204, 205, AZIACenter, No.1233 Lujiazui Ring Rd, Pudong District, Shanghai, China 200120
Tel: <86> (21) 5877-1818, Fax: <86> (21) 6887-7898

Renesas Technology Hong Kong Ltd.
7th Floor, North Tower, World Finance Centre, Harbour City, 1 Canton Road, Tsimshatsui, Kowloon, Hong Kong
Tel: <852> 2265-6688, Fax: <852> 2730-6071

Renesas Technology Taiwan Co., Ltd.
10th Floor, No.99, Fushing North Road, Taipei, Taiwan
Tel: <886> (2) 2715-2888, Fax: <886> (2) 2713-2999

Renesas Technology Singapore Pte. Ltd.
1 Harbour Front Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: <65> 6213-0200, Fax: <65> 6278-8001

Renesas Technology Korea Co., Ltd.
Kukje Center Bldg. 18th Fl., 191, 2-ka, Hangang-ro, Yongsan-ku, Seoul 140-702, Korea
Tel: <82> (2) 796-3115, Fax: <82> (2) 796-2145

Renesas Technology Malaysia Sdn. Bhd
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No.18, Jalan Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: <603> 7955-9390, Fax: <603> 7955-9510

Colophon .6.0