

CT60AM-18F

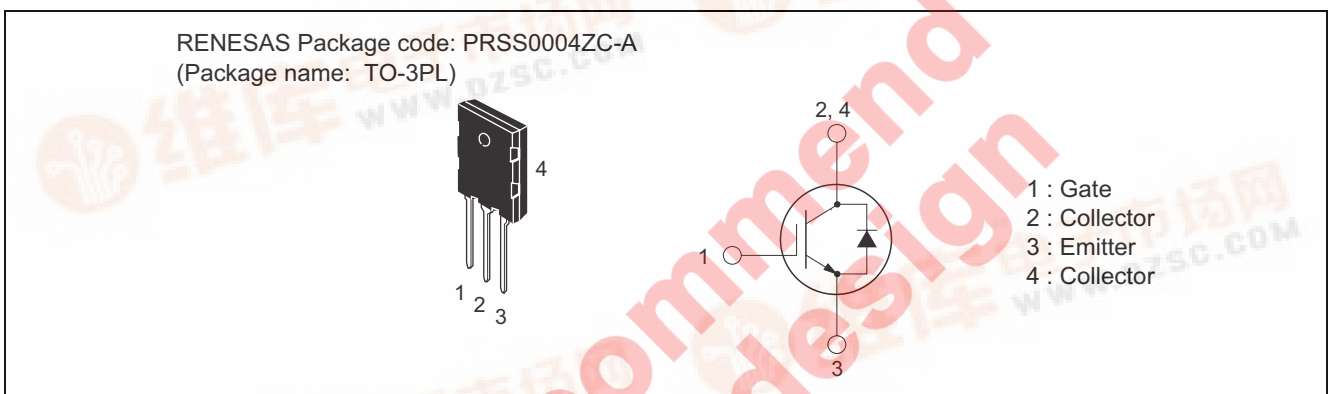
Insulated Gate Bipolar Transistor

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



Applications

Microwave oven, Electromagnetic cooking devices, 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}	± 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	T_j	-40 to $+150$	$^\circ\text{C}$	
Storage temperature	T_{stg}	-40 to $+150$	$^\circ\text{C}$	

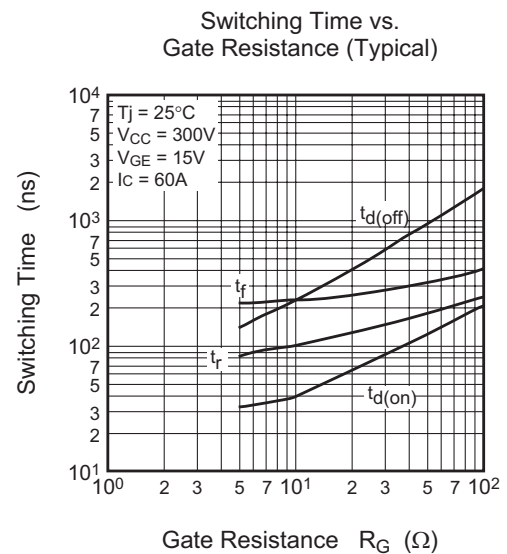
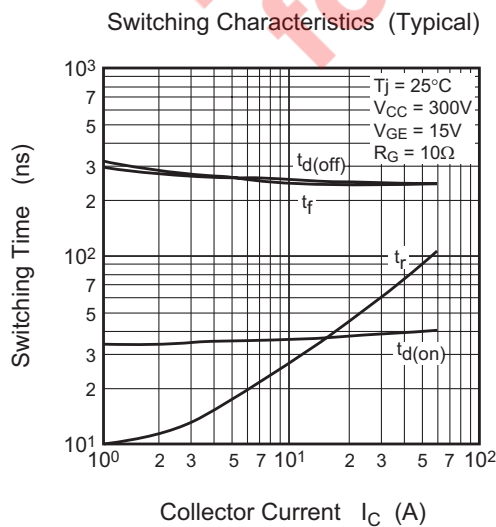
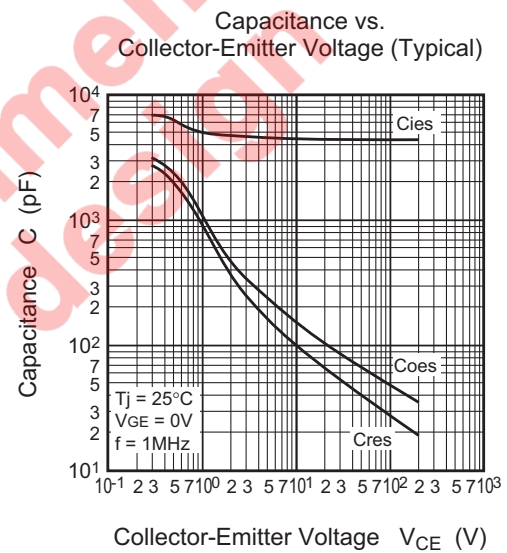
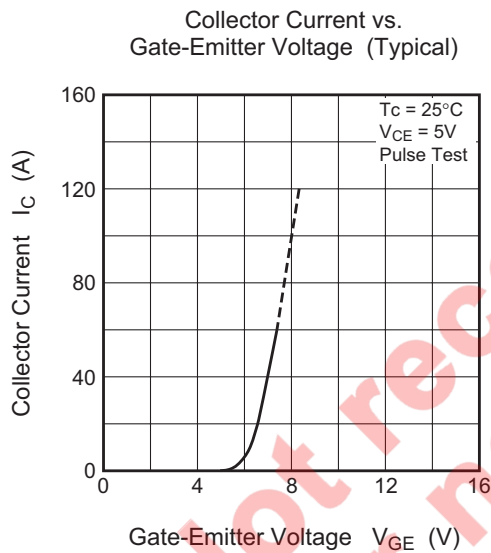
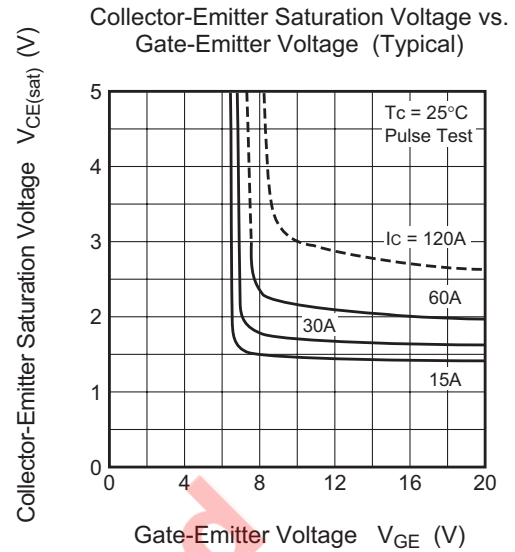
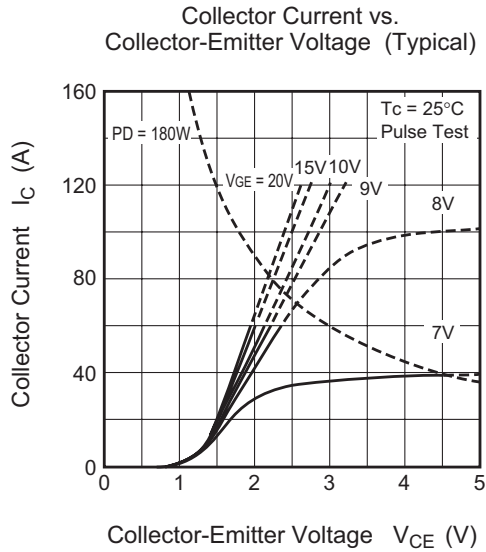
Electrical Characteristics

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(T_{ch} = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter leakage current	I_{CES}	—	—	1	mA	$V_{CE} = 900\text{ V}$, $V_{GE} = 0\text{ V}$
Gate-emitter leakage current	I_{GES}	—	—	0.5	μA	$V_{GE} = \pm 20\text{ V}$, $V_{CE} = 0\text{ V}$
Gate-emitter threshold voltage	$V_{GE(th)}$	2.0	4.0	6.0	V	$V_{CE} = 10\text{ V}$, $I_C = 6\text{ mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	2.1	2.7	V	$I_C = 60\text{ A}$, $V_{CE} = 15\text{ V}$
Input capacitance	C_{ies}	—	4400	—	pF	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$
Output capacitance	C_{oes}	—	115	—	pF	
Reverse transfer capacitance	C_{res}	—	75	—	pF	
Turn-on delay time	$t_{d(on)}$	—	0.05	—	μs	$V_{CC} = 300\text{ V}$, $I_C = 60\text{ A}$, $V_{GE} = 15\text{ V}$, $R_G = 10\ \Omega$
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	$I_{CP} = 60\text{ A}$, $T_j = 125^\circ\text{C}$, $d_v/d_t = 200\text{ V}/\mu\text{s}$
Tail current	I_{tail}	—	6.0	12	A	
Emitter-collector voltage	V_{EC}	—	2.2	3.0	V	$I_E = 60\text{ A}$, $V_{GE} = 0\text{ V}$
Diode reverse recovery time	t_{rr}	—	0.5	2.0	μs	$I_E = 60\text{ A}$, $d_{IS}/d_t = -20\text{ A}/\mu\text{s}$
Thermal resistance (IGBT)	$R_{th(j-c)}$	—	—	0.69	$^\circ\text{C}/\text{W}$	Junction to case
Thermal resistance (Diode)	$R_{th(j-c)}$	—	—	4.0	$^\circ\text{C}/\text{W}$	Junction to case

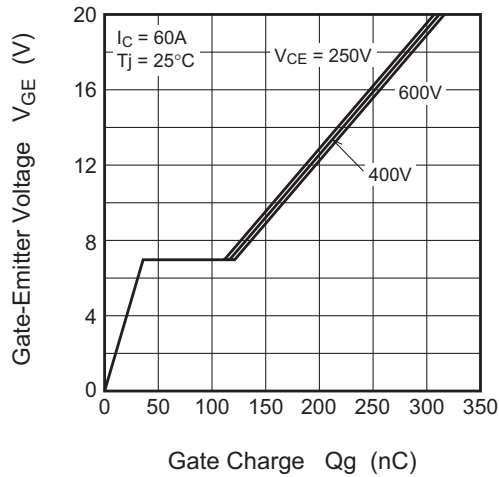
Not recommended
for new designs

Performance Curves

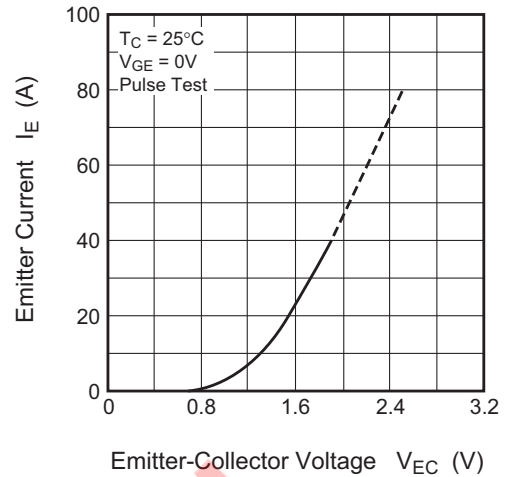
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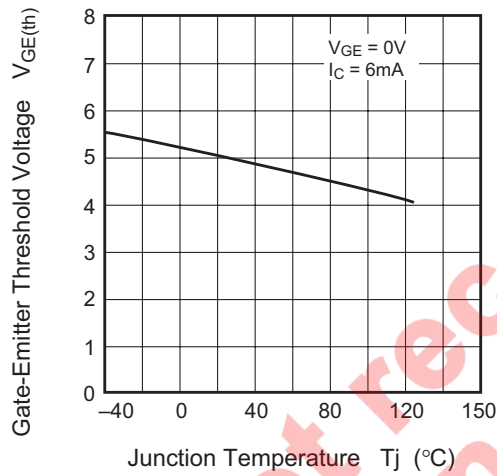
Gate-Emitter Voltage vs.
Gate Charge Characteristic (Typical)



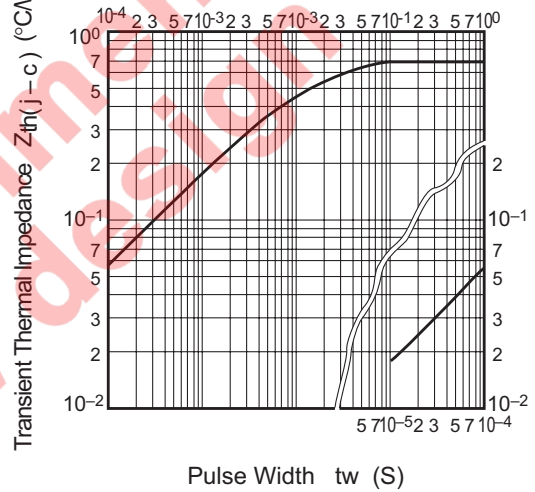
Emitter Current vs.
Emitter-Collector Voltage (Typical)



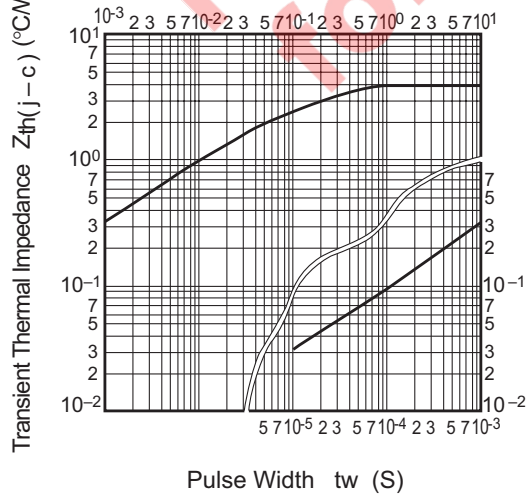
Gate-Emitter Threshold Voltage vs.
Junction Temperature (Typical)



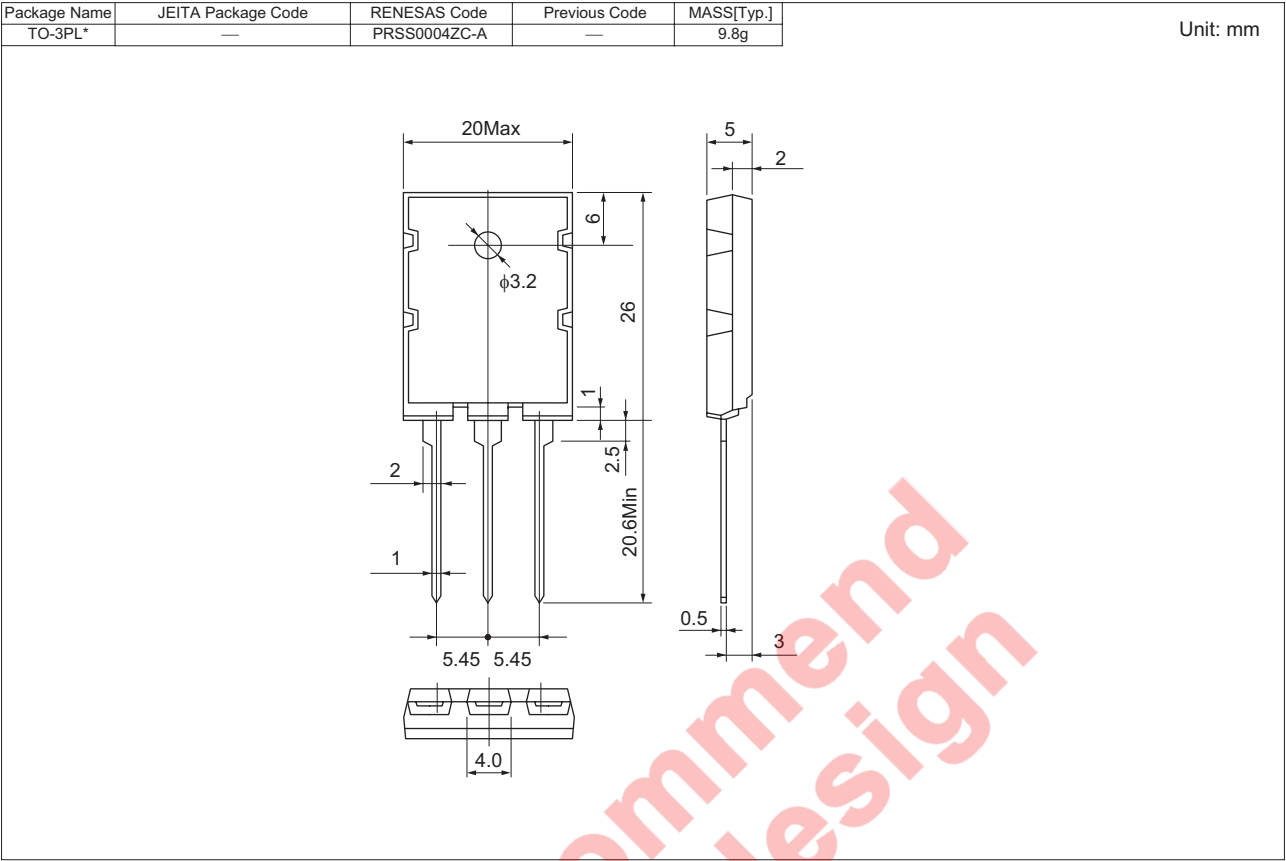
IGBT Transient Thermal
Impedance Characteristics



Diode Transient Thermal
Impedance Characteristics



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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.

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