

CT60AM-18C

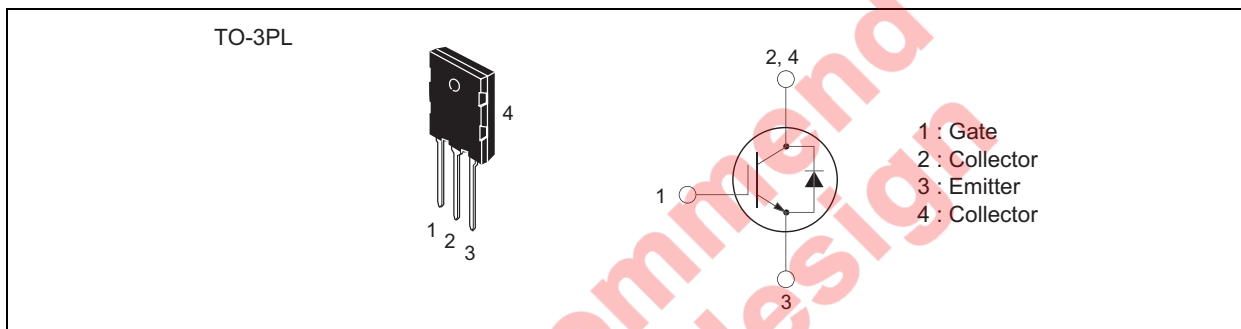
Insulated Gate Bipolar Transistor

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	$^\circ\text{C}$	

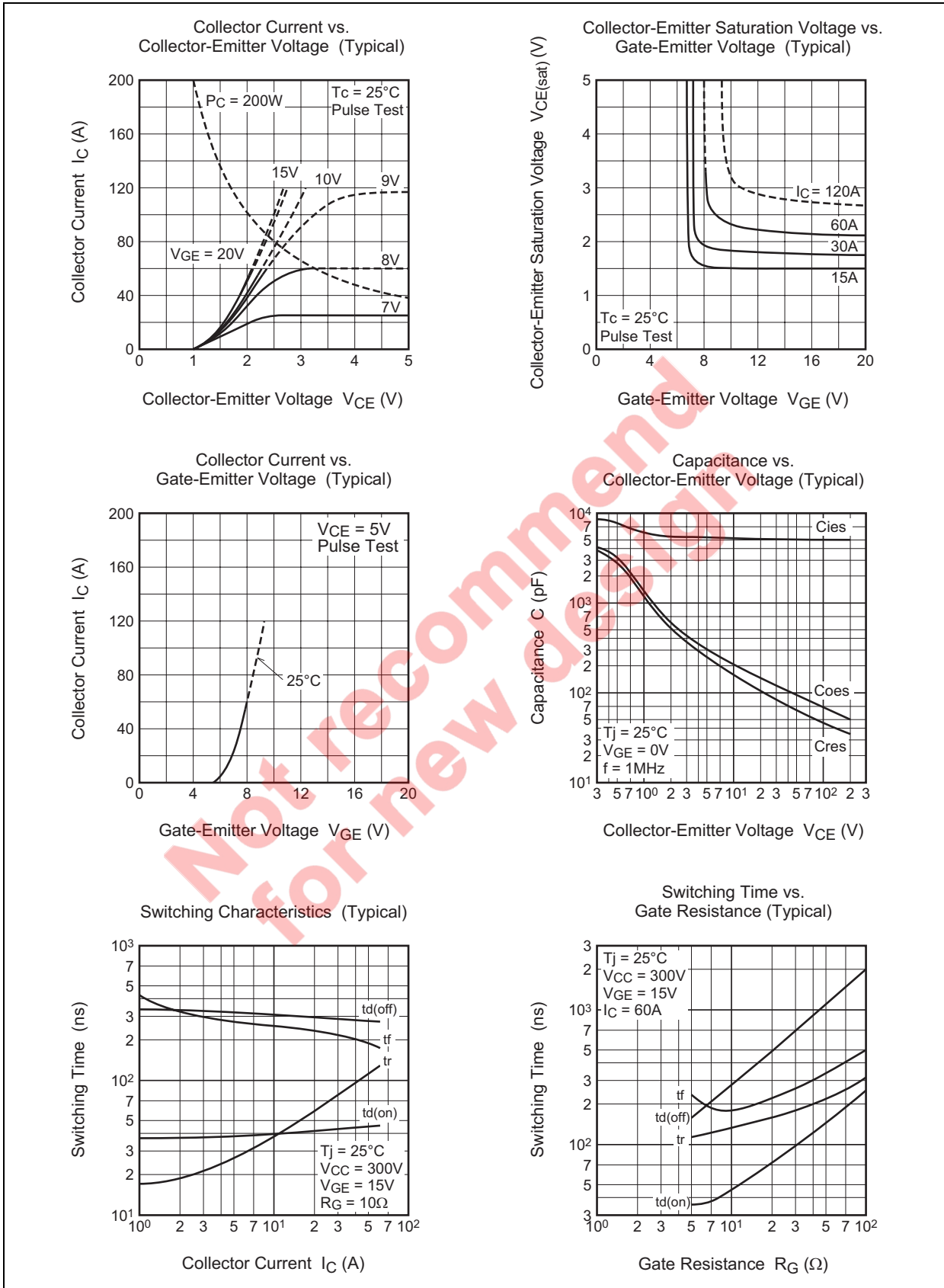
Electrical Characteristics

(Unless otherwise specified, T_j = 25°C)

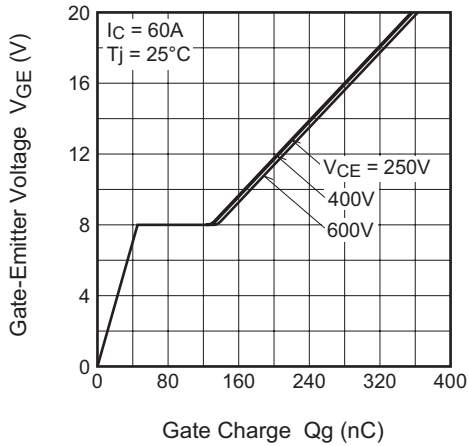
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	V _{(BR)CES}	1000 ^{not e1}	—	—	V	I _C = 1 mA, V _{GE} = 0 V
Collector-emitter leakage current	I _{CES}	—	—	1	mA	V _{CE} = 900 V, V _{GE} = 0 V
Gate-emitter leakage current	I _{GES}	—	—	±0.5	μA	V _{GE} = ±20 V, V _{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

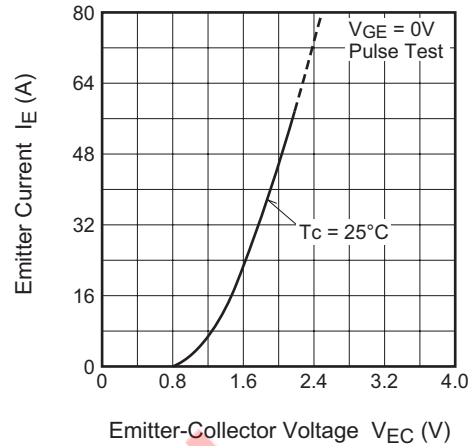
Performance Curves



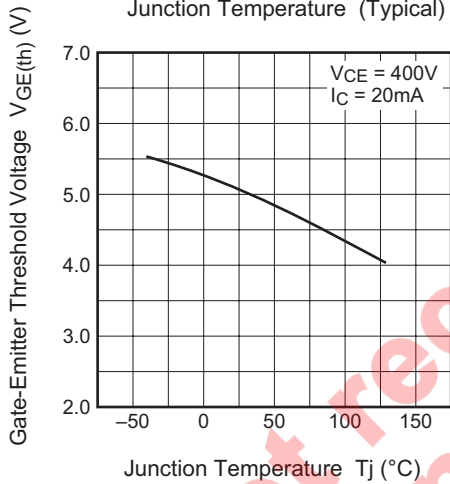
Gate-Emitter Voltage vs. Gate Charge Characteristic (Typical)



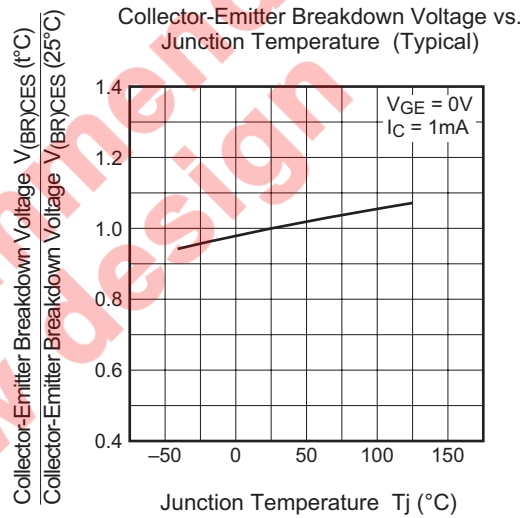
Emitter Current vs. Emitter-Collector Voltage (Typical)



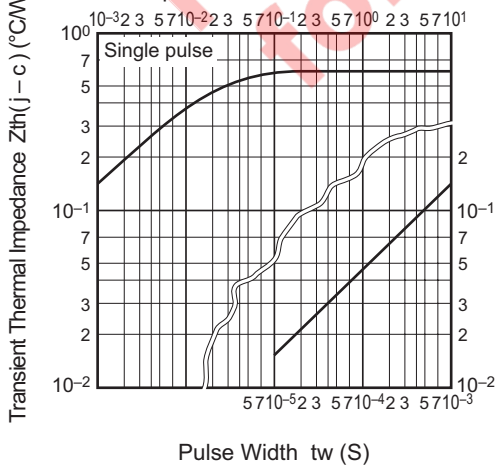
Gate-Emitter Threshold Voltage vs. Junction Temperature (Typical)



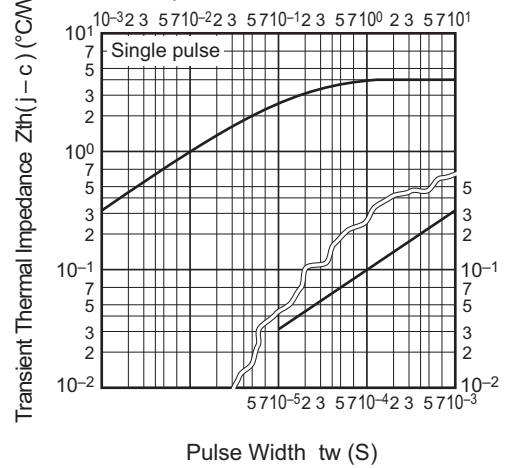
Collector-Emitter Breakdown Voltage vs. Junction Temperature (Typical)



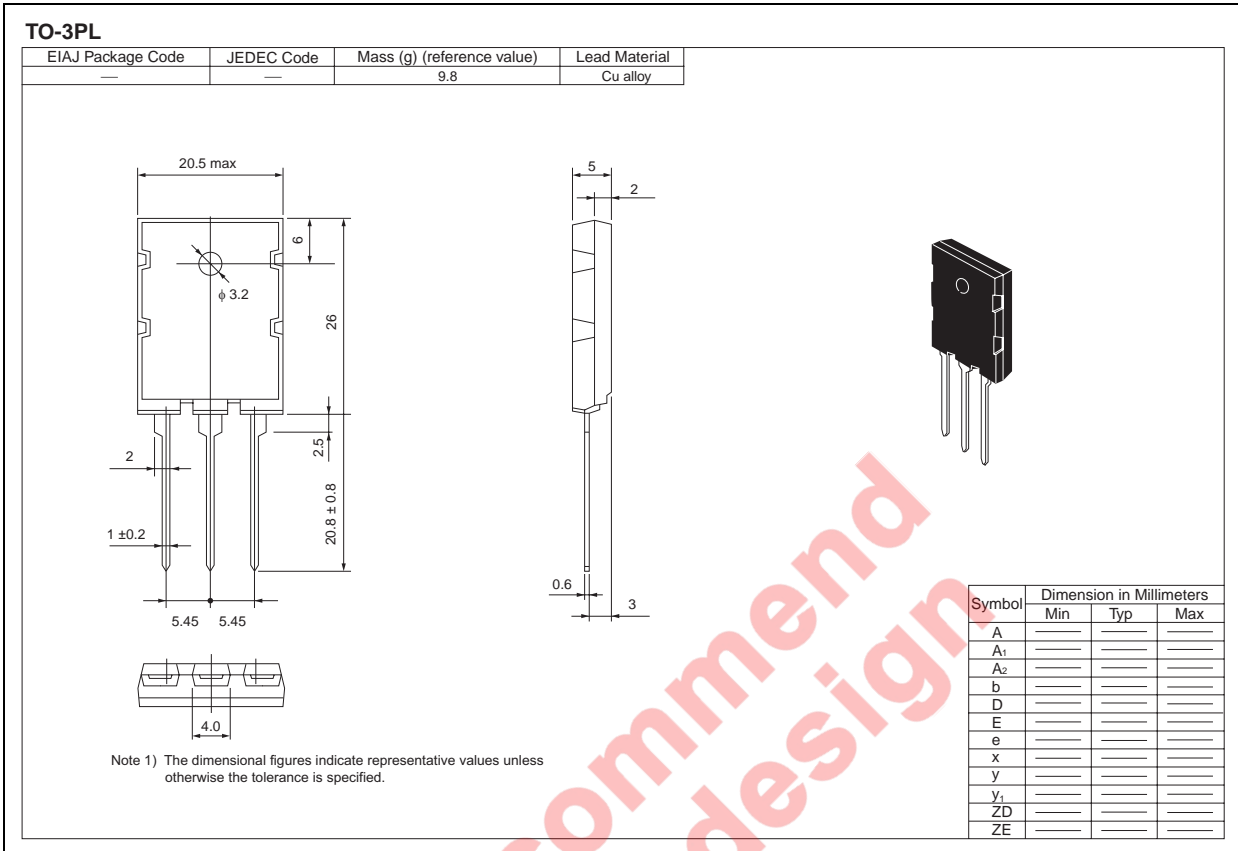
IGBT Transient Thermal Impedance Characteristics



Diode Transient Thermal Impedance Characteristics



Package Dimensions



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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