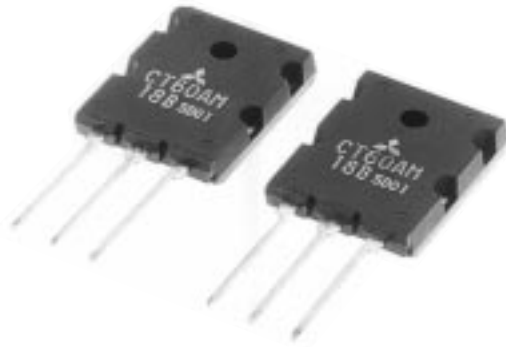


# CT60AM-18B

RESONANT INVERTER USE

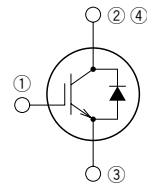
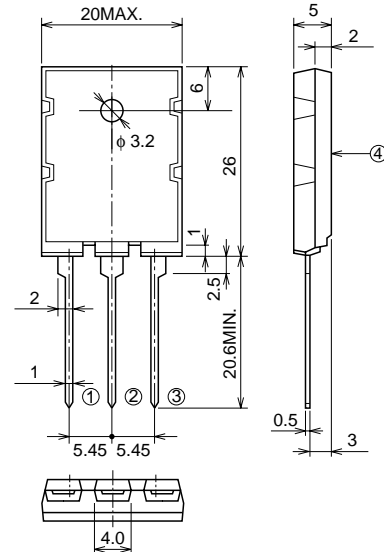
## CT60AM-18B



- VCES ..... 900V
- IC ..... 60A
- Integrated Fast Recovery Diode

## OUTLINE DRAWING

Dimensions in mm



- ① GATE
- ② COLLECTOR
- ③ EMITTER
- ④ COLLECTOR

TO-3PL

## APPLICATION

Microwave ovens, electromagnetic cooking devices, rice-cookers, voltage-resonant inverter circuit electric appliances.

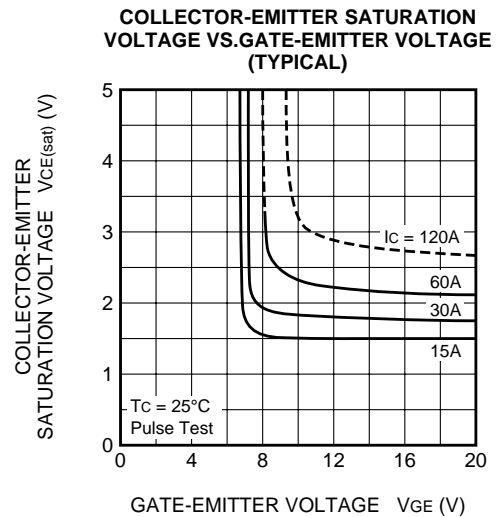
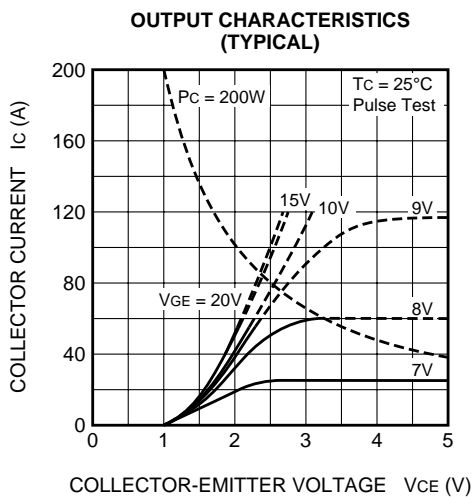
## MAXIMUM RATINGS (Tc = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V <sub>CE</sub> S	Collector-emitter voltage	V <sub>GE</sub> = 0V	900	V
V <sub>GES</sub>	Gate-emitter voltage	V <sub>CE</sub> = 0V	±20	V
V <sub>GEM</sub>	Peak gate-emitter voltage	V <sub>CE</sub> = 0V	±30	V
I <sub>C</sub>	Collector current		60	A
I <sub>CM</sub>	Collector current (Pulsed)		120	A
I <sub>E</sub>	Emitter current		40	A
P <sub>C</sub>	Maximum power dissipation	T <sub>C</sub> = 25°C	200	W
T <sub>j</sub>	Junction temperature		-40 ~ +150	°C
T <sub>stg</sub>	Storage temperature		-40 ~ +150	°C

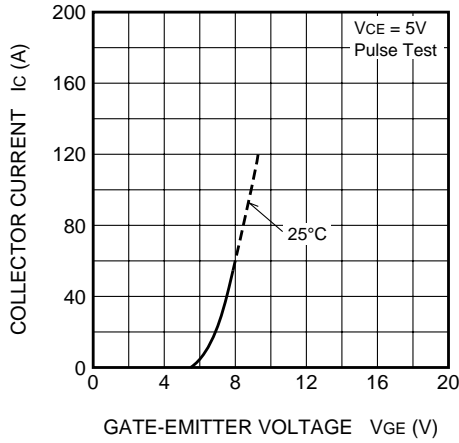
**ELECTRICAL CHARACTERISTICS** (T<sub>j</sub> = 25°C unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V (BR) CES	Collector-emitter breakdown voltage	I <sub>C</sub> = 1mA, V <sub>GE</sub> = 0V	900	—	—	V
I <sub>CES</sub>	Collector-emitter leakage current	V <sub>CE</sub> = 900V, V <sub>GE</sub> = 0V	—	—	1	mA
I <sub>GES</sub>	Gate-emitter leakage current	V <sub>GE</sub> = ±20V, V <sub>CE</sub> = 0V	—	—	±0.5	μA
V <sub>GE(th)</sub>	Gate-emitter threshold voltage	V <sub>CE</sub> = 10V, I <sub>C</sub> = 6mA	2.0	4.0	6.0	V
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> = 60A, V <sub>CE</sub> = 15V	—	2.0	2.7	V
C <sub>ies</sub>	Input capacitance	V <sub>CE</sub> = 25V, V <sub>GE</sub> = 0V, f = 1MHz	—	5000	—	pF
C <sub>oes</sub>	Output capacitance		—	125	—	pF
C <sub>res</sub>	Reverse transfer capacitance		—	85	—	pF
t <sub>d (on)</sub>	Turn-on delay time	I <sub>C</sub> = 60A, Resistance load, V <sub>CC</sub> = 300V, V <sub>GE</sub> = 15V, R <sub>G</sub> = 10Ω	—	0.05	—	μs
t <sub>r</sub>	Rise time		—	0.12	—	μs
t <sub>d (off)</sub>	Turn-off delay time		—	0.30	—	μs
t <sub>f</sub>	Fall time		—	0.25	—	μs
E <sub>tail</sub>	Tail loss		I <sub>CP</sub> = 60A, T <sub>j</sub> = 125°C, dv/dt = 200V/μs	—	0.6	1.0
I <sub>Ctail</sub>	Collector tail current	I <sub>E</sub> = 60A, V <sub>GE</sub> = 0V	—	6	12	A
V <sub>EC</sub>	Emitter-collector voltage	I <sub>E</sub> = 60A, V <sub>GE</sub> = 0V	—	—	3	V
T <sub>rr</sub>	Reverse recovery time	I <sub>E</sub> = 60A, di/dt = 20A/μs	—	0.5	2	μs
R <sub>th (j-c)</sub>	Thermal resistance (IGBT part)	Junction to case	—	—	0.63	°C/W
R <sub>th (j-c)</sub>	Thermal resistance	Junction to case	—	—	4.0	°C/W

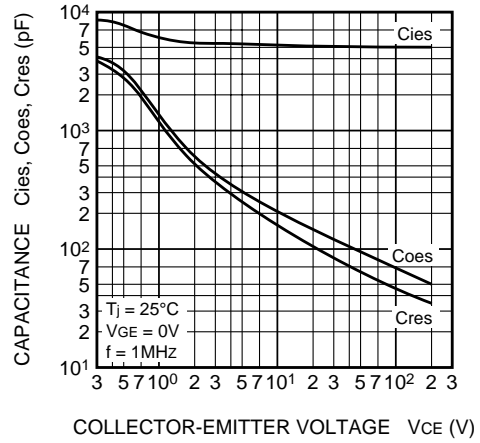
**PERFORMANCE CURVES**



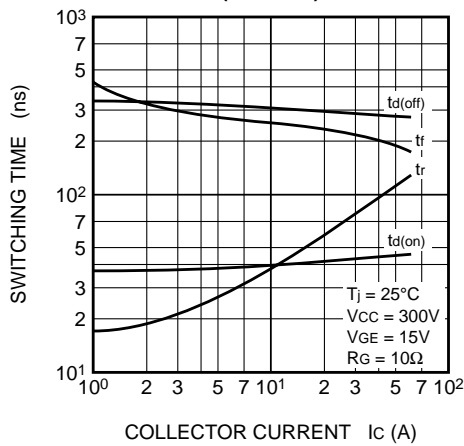
COLLECTOR CURRENT VS. GATE-EMITTER VOLTAGE (TYPICAL)



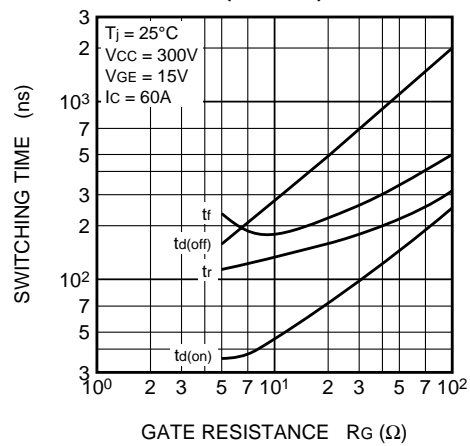
CAPACITANCE VS. COLLECTOR-EMITTER VOLTAGE (TYPICAL)



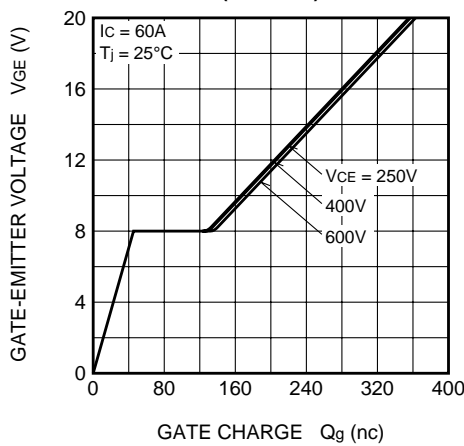
SWITCHING CHARACTERISTICS (TYPICAL)



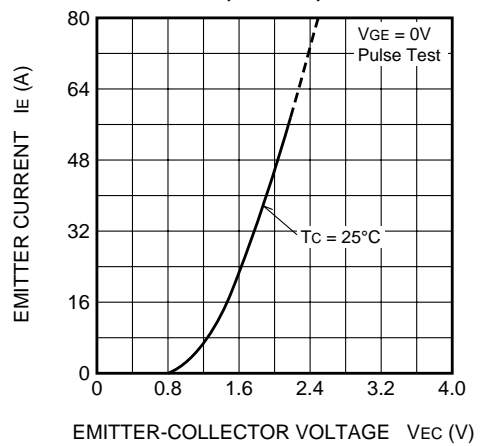
SWITCHING TIME VS. GATE RESISTANCE (TYPICAL)



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



TRANSFER CHARACTERISTICS (TYPICAL)



CT60AM-18B

RESONANT INVERTER USE

