

CT60AM-18B

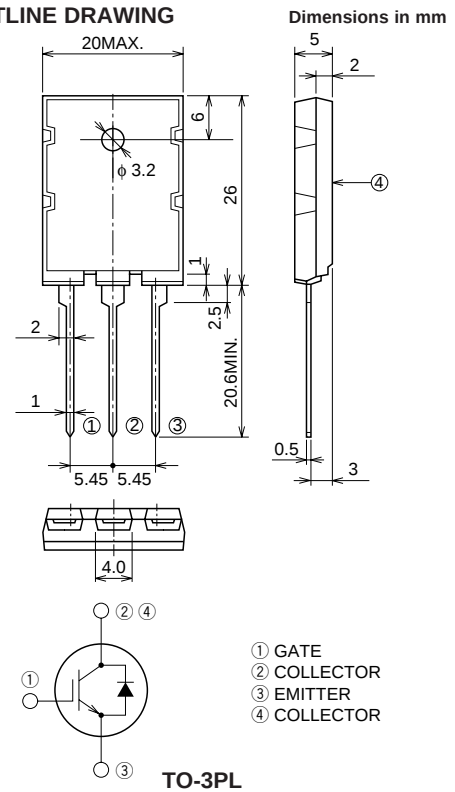
RESONANT INVERTER USE

CT60AM-18B



- V_{CES} 900V
- I_C 60A
- Integrated Fast Recovery Diode

OUTLINE DRAWING



APPLICATION

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

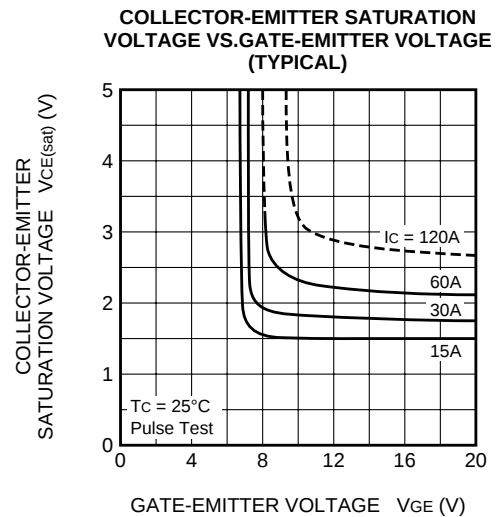
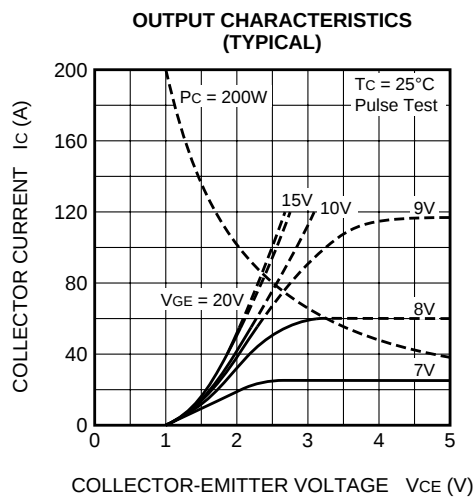
MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$)

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

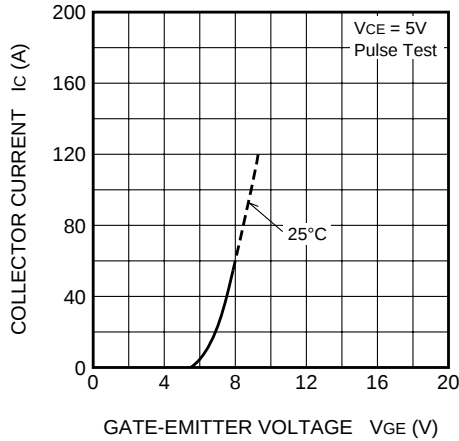
ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
$V_{(BR)CES}$	Collector-emitter breakdown voltage	$I_C = 1\text{mA}$, $V_{GE} = 0\text{V}$	900	—	—	V
I_{CES}	Collector-emitter leakage current	$V_{CE} = 900\text{V}$, $V_{GE} = 0\text{V}$	—	—	1	mA
I_{GES}	Gate-emitter leakage current	$V_{GE} = \pm 20\text{V}$, $V_{CE} = 0\text{V}$	—	—	± 0.5	μA
$V_{GE(th)}$	Gate-emitter threshold voltage	$V_{CE} = 10\text{V}$, $I_C = 6\text{mA}$	2.0	4.0	6.0	V
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = 60\text{A}$, $V_{CE} = 15\text{V}$	—	2.0	2.7	V
C_{ies}	Input capacitance	$V_{CE} = 25\text{V}$, $V_{GE} = 0\text{V}$, $f = 1\text{MHz}$	—	5000	—	pF
C_{oes}	Output capacitance		—	125	—	pF
C_{res}	Reverse transfer capacitance		—	85	—	pF
$t_{d(on)}$	Turn-on delay time	$I_C = 60\text{A}$, Resistance load, $V_{CC} = 300\text{V}$, $V_{GE} = 15\text{V}$, $R_G = 10\Omega$	—	0.05	—	μs
t_r	Rise time		—	0.12	—	μs
$t_{d(off)}$	Turn-off delay time		—	0.30	—	μs
t_f	Fall time		—	0.25	—	μs
E_{tail}	Tail loss	$I_{CP} = 60\text{A}$, $T_j = 125^\circ\text{C}$, $dv/dt = 200\text{V}/\mu\text{s}$	—	0.6	1.0	mJ/pls
I_{Ctail}	Collector tail current	$I_E = 60\text{A}$, $V_{GE} = 0\text{V}$	—	6	12	A
V_{EC}	Emitter-collector voltage	$I_E = 60\text{A}$, $V_{GE} = 0\text{V}$	—	—	3	V
T_{rr}	Reverse recovery time	$I_E = 60\text{A}$, $di/dt = 20\text{A}/\mu\text{s}$	—	0.5	2	μs
$R_{th(j-c)}$	Thermal resistance (IGBT part)	Junction to case	—	—	0.63	$^\circ\text{C}/\text{W}$
$R_{th(j-c)}$	Thermal resistance	Junction to case	—	—	4.0	$^\circ\text{C}/\text{W}$

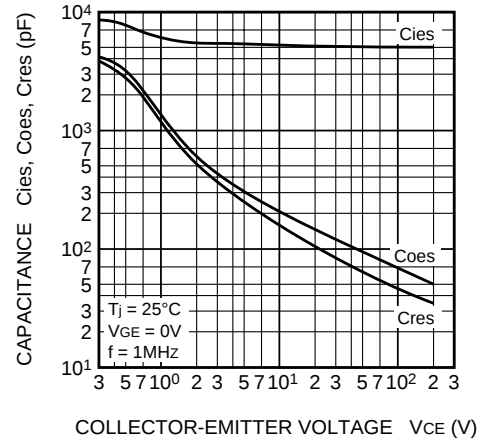
PERFORMANCE CURVES



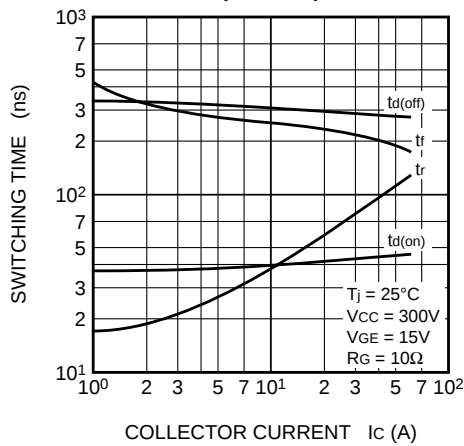
COLLECTOR CURRENT VS.
GATE-EMITTER VOLTAGE
(TYPICAL)



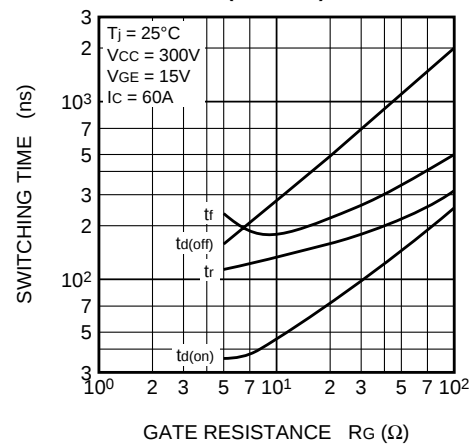
CAPACITANCE VS.
COLLECTOR-EMITTER VOLTAGE
(TYPICAL)



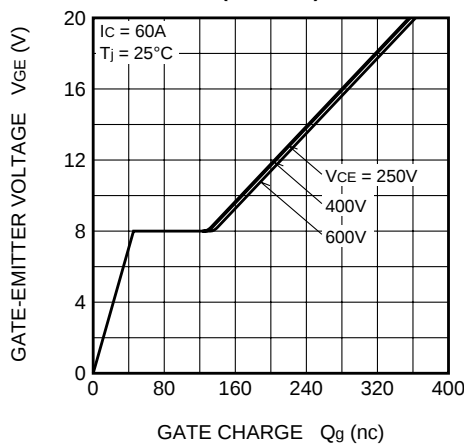
SWITCHING CHARACTERISTICS
(TYPICAL)



SWITCHING TIME VS. GATE RESISTANCE
(TYPICAL)



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



TRANSFER CHARACTERISTICS
(TYPICAL)

