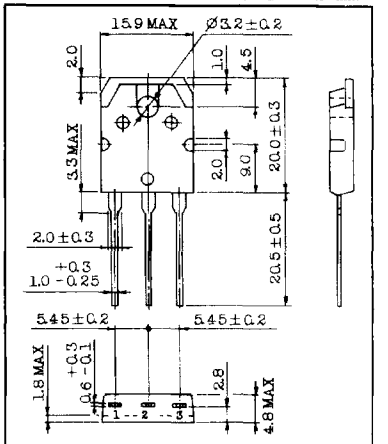
GT15H101

INSULATED GATE BIPOLAR TRANSISTOR
SILICON N-CHANNEL IGBT

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

- High Input Impedance
- High Speed : t_f=1.0μs(Max.)
- Low Saturation Voltage : $V_{CE(sat)}$=5.0V(Max.)
- Enhancement-Mode

Unit in mm



1. GATE
2. COLLECTOR (HEAT SINK)
3. EMITTER

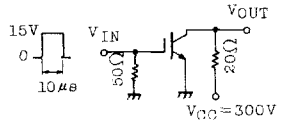
JEDEC	—
EIAJ	—
TOSHIBA	2-16C1C

Weight : 4.6g

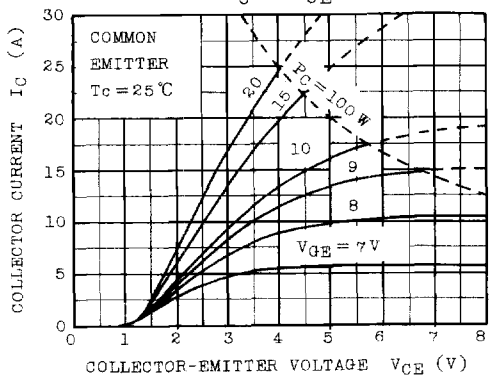
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	500	V
Gate-Emitter Voltage		V_{GES}	±20	V
Collector Current	DC	I_C	15	A
	1ms	I_{CP}	30	
Collector Power Dissipation (Tc=25°C)		P_C	100	W
Junction Temperature		Tj	150	°C
Storage Temperature Range		Tstg	-55~150	°C

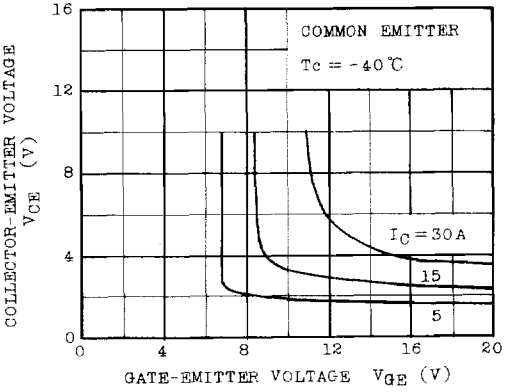
ELECTRICAL CHARACTRISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GES}	V_{GE}=±20V, V_{CE}=0	-	-	±500	nA
Collector Cut-off Current		I_{CES}	V_{CE}=500V, V_{GE}=0	-	-	1.0	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CES}$	I_C=2mA, V_{GE}=0	500	-	-	V
Gate-Emitter Cut-off Voltage		$V_{GE(off)}$	I_C=15mA, V_{CE}=5V	3.0	-	6.0	V
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=15A, V_{GE}=15V	-	3.5	5.0	V
Input Capacitance		Cies	V_{CE}=10V, V_{GE}=0, f=1MHz	-	1400	-	pF
Switching Time	Rise Time	tr		-	0.3	0.5	μs
	Turn-on Time	ton		-	0.4	0.6	
	Fall Time	tf		-	0.4	1.0	
	Turn-off Time	toff		-	0.6	1.2	

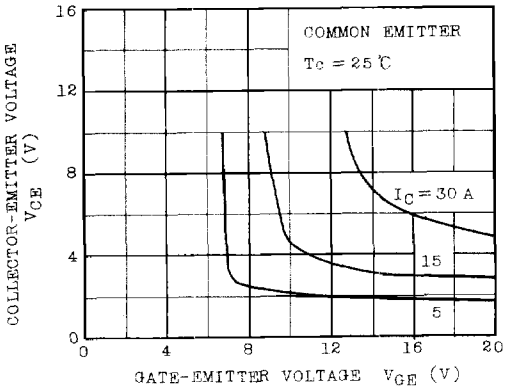
I_C – V_{CE}



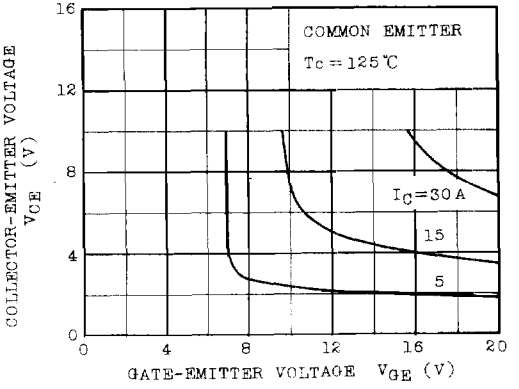
V_{CE} – V_{GE}



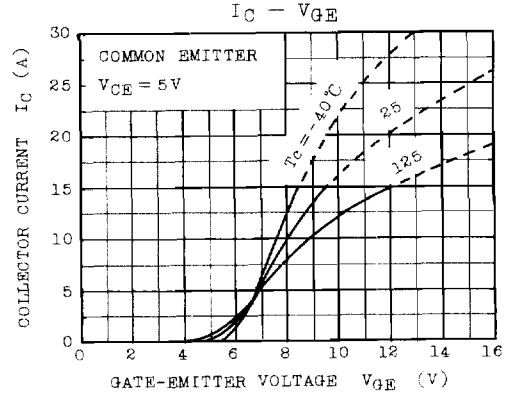
V_{CE} – V_{GE}



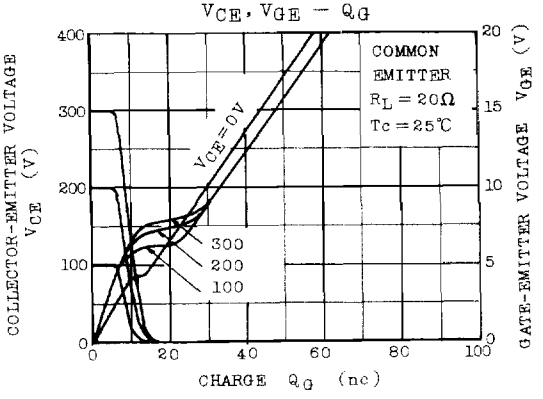
V_{CE} – V_{GE}



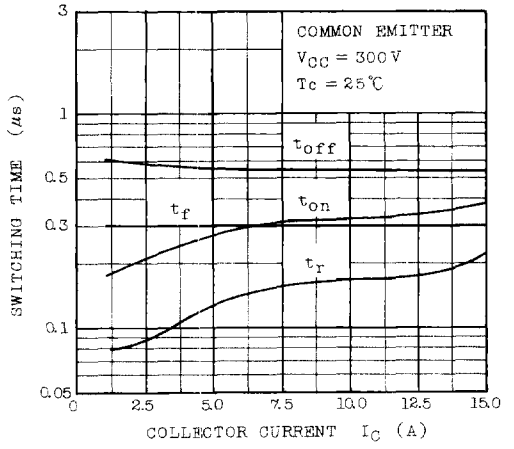
I_C – V_{GE}



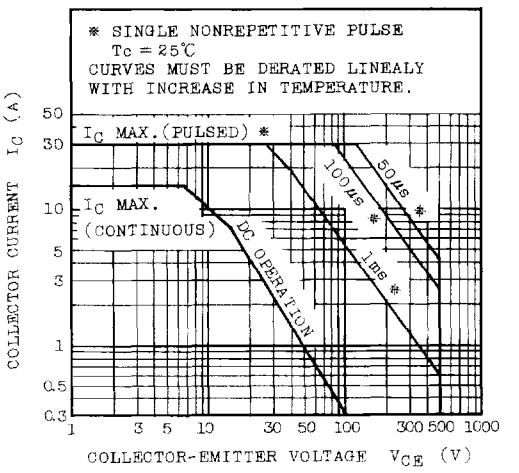
V_{CE}, V_{GE} – Q_G



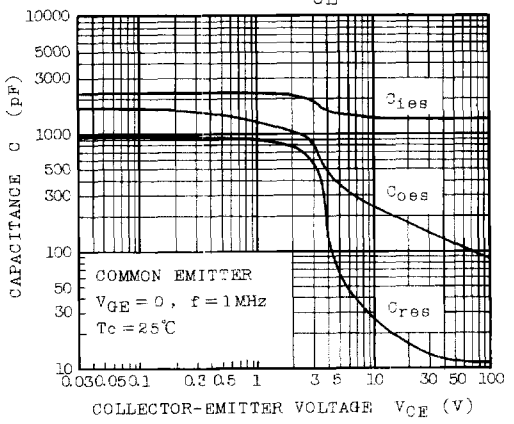
SWITCHING TIME — I_C



SAFE OPERATING AREA



C — V_{CE}



REVERSE BIAS SOA