

TOSHIBA SEMICONDUCTOR

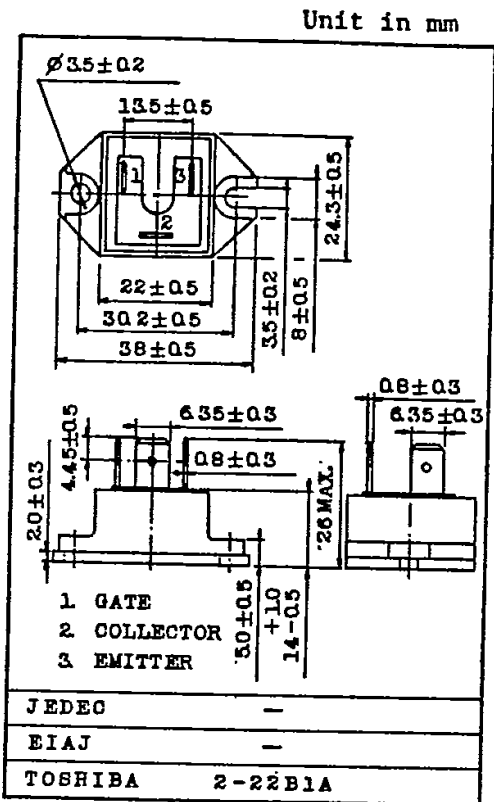
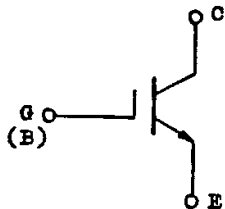
TECHNICAL DATA

TOSHIBA GTR MODULE
 MG15H1BS1
 SILICON N-CHANNEL IGBT

HIGH POWER SWITCHING APPLICATIONS.
 MOTOR CONTROL APPLICATIONS.

- High Input Impedance
- High Speed : $t_f=1.0\mu S(\text{Max.})$
- Low Saturation Voltage : $V_{CE}(\text{sat})=5.0V(\text{Max.})$
- Enhancement-Mode
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT

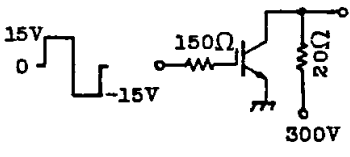


Weight : 28g

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

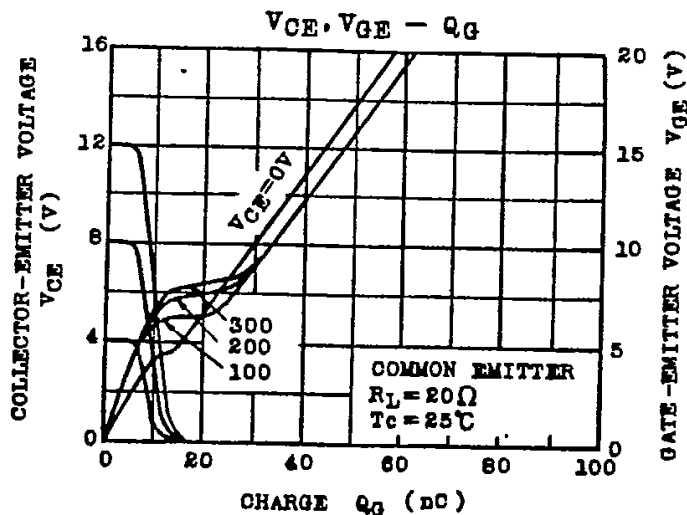
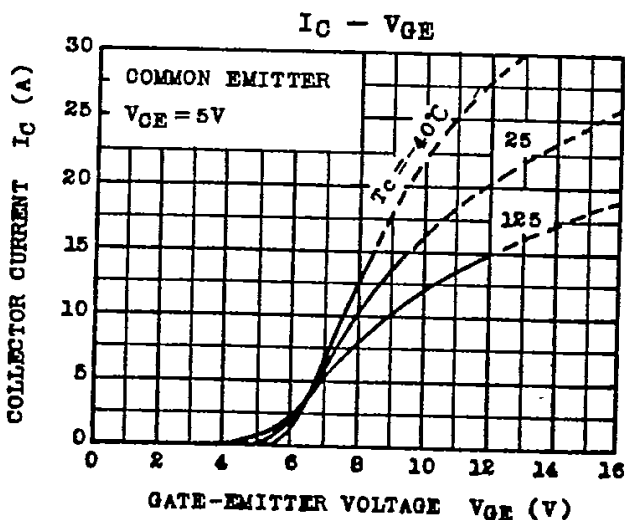
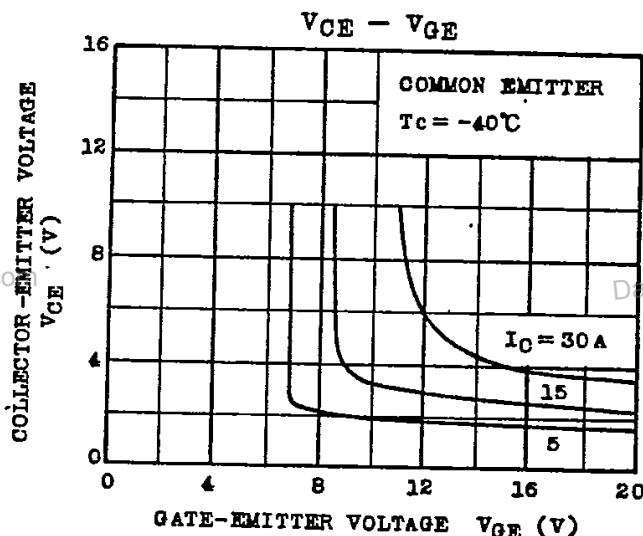
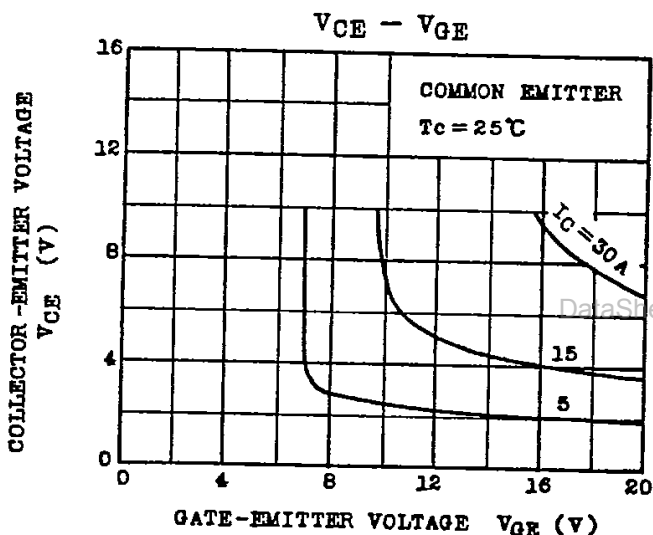
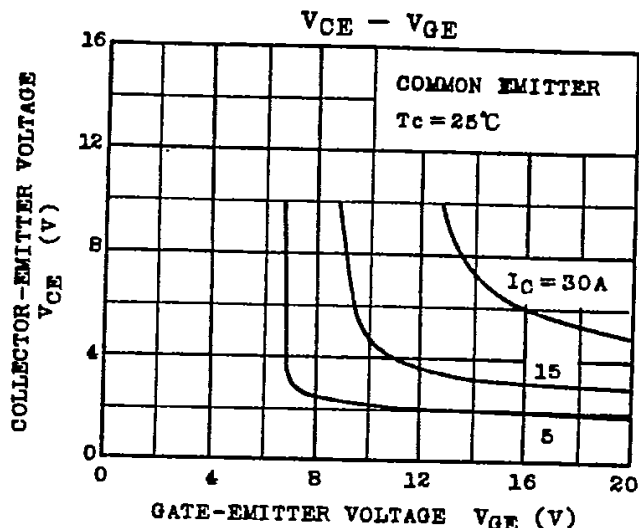
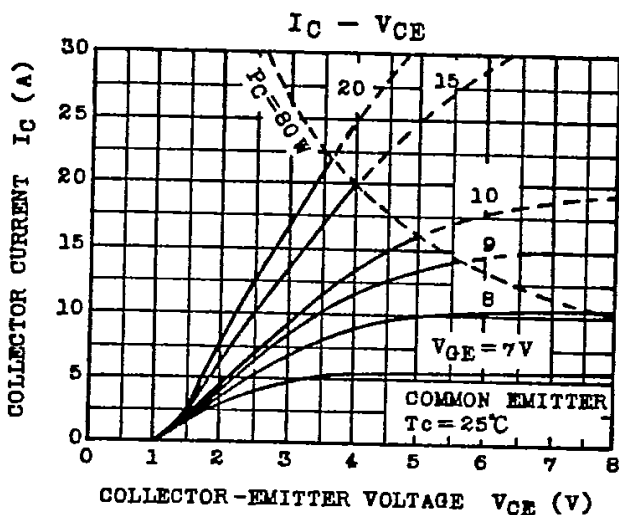
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CES}	500	V
Gate-Emitter Voltage	V_{GES}	± 20	V
Collector Current	DC	I_C	15
	1ms	I_{CP}	30
Collector Power Dissipation	P_C	80	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~125	$^\circ\text{C}$
Isolation Voltage	V_{Isol}	2500 (AC 1 Minute)	V
Screw Torque	-	10	kg·cm

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGES	VGE=±20V, VCE=0	-	-	±500	nA
Collector Cut-off Current		ICES	VCE=500V, VGE=0	-	-	1.0	mA
Collector-Emitter Breakdown Voltage		V(BR)CES	IC=10mA, VGE=0	500	-	-	V
Gate-Emitter Turn-on Voltage		VGE(OFF)	IC=15mA, VCE=5V	3.0	-	6.0	V
Collector-Emitter Saturation Voltage		VCE(sat)	IC=15A, VGE=15V	-	3.0	5.0	V
Input Capacitance		Cies	VCE=10V, VGE=0, f=1MHz	-	1400	-	pF
Switching Time	Rise Time	tr		-	0.3	1.0	μs
	Turn-on Time	ton		-	0.4	1.0	
	Fall Time	tf		-	0.3	1.0	
	Turn-off Time	toff		-	0.6	1.5	
Thermal Resistance		Rth(ch-c)		-	-	1.56	°C/W

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