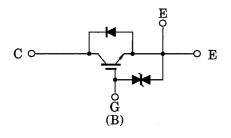
TOSHIBA GTR Module Silicon N Channel IGBT

MG400Q1US41

High Power Switching Applications Motor Control Applications

- High input impedance
- $\begin{array}{c} \bullet \quad \mbox{High speed} \, : \, t_f = 0.5 \mu s \; (\mbox{Max.}) \\ \\ t_{rr} = 0.5 \mu s \; (\mbox{Max.}) \end{array}$
- Low saturation voltage
 - $: V_{\text{CE(sat)}} = 4.0V \text{ (Max.)}$
- Enhancement-mode
- The electrodes are isolated from case.

Equivalent Circuit



Unit: mm 2-M4 2-M6 4-\$\phi 6.5 \dot 0.3 0+0.5 80 \dot 0.8 93 \dot 0.8 93 \dot 0.8 93 \dot 0.8 108 \dot 0.8 106 \dot 0.8 JEDEC EIAJ TOSHIBA 2-M6 4-\$\phi 6.5 \dot 0.3 10 \dot 0.5 5 \dot d \dot 0.8 5 \dot 0.8 60 \dot 0.8 5 \dot 0.

Weight: 465g

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Maximum Ratings (Ta = 25°C)

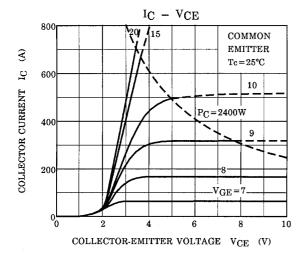
Character	Symbol	Rating	Unit		
Collector-emitter voltage		V _{CES}	1200	V	
Gate-emitter voltage		V _{GES}	±20	V	
Collector current	DC	Ic	400	А	
	1ms	I _{CP}	800		
Forward current	DC	l _F	400	Α	
	1ms	I _{FM}	800		
Collector power dissipation (Tc = 25°C)		PC	2400	W	
Junction temperature		Tj	150	°C	
Storage temperature range		T _{stg}	- 40 ~ 125	°C	
Isolation voltage		V _{Isol}	2500 (AC 1 minute)	V	
Screw torque (Terminal : M4 / M6 / mounting)		_	2/3/3	N·m	

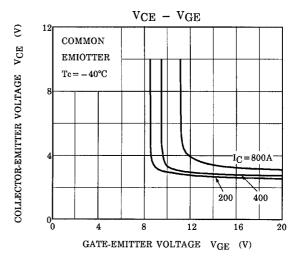
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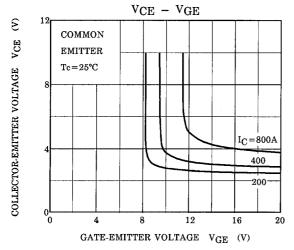
Electrical Characteristics (Ta = 25°C)

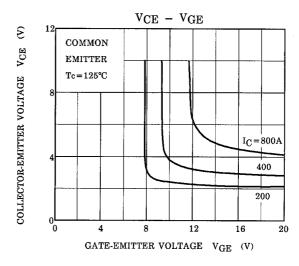
Chara	acteristic	Symbol	Test Condition		Тур.	Max	Unit
Gate leakage current I_{GES} $V_{GE} = \pm 20V, V_{CE} = 0$		V _{GE} = ±20V, V _{CE} = 0	_	_	±40	μΑ	
Collector cut-off c	urrent	I _{CES}	V _{CE} = 1200V, V _{GE} = 0		_	4	mA
Gate-emitter cut-o	off voltage	V _{GE} (OFF)	I _C = 400mA, V _{CE} = 5V		_	6.0	V
Collector-emitter	saturation voltage	V _{CE (sat)}	I _C = 400A, V _{GE} = 15V		3.0	4.0	V
Input capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0, f = 1MHz		48000	-	pF
Switching time	Rise time	t _r	15V 2.4Ω C C C C C C C C C C C C C C C C C C C	_	0.3	0.6	- µs
	Turn-on time	t _{on}		_	0.4	0.8	
	Fall time	t _f		_	0.2	0.5	
	Turn-off time	t _{off}		_	0.8	1.5	
Forward voltage		V _F		_	2.0	3.0	V
Reverse recovery time		t _{rr}	I _F = 400 A, V _{GE} = -10 V,P di / dt = 300 A / μs	_	0.25	0.5	μs
Thermal resistance		R _{th (j-c)}	Transistor	_	_	0.052	- °C/W
			Diode	_	_	0.2	

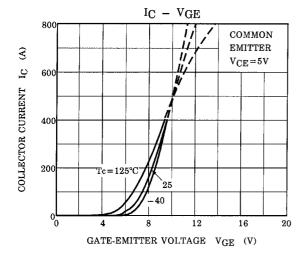
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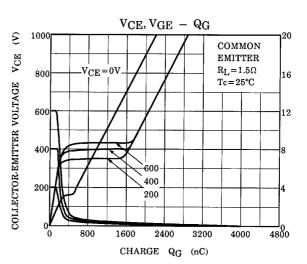








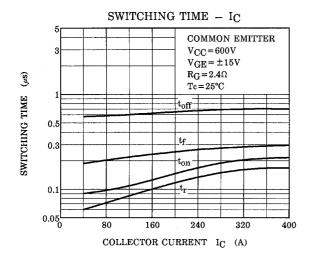


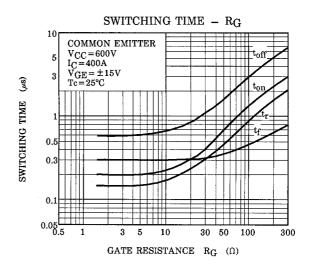


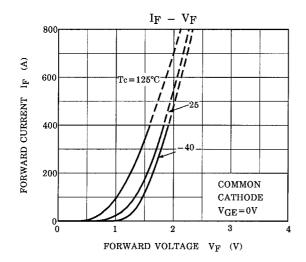
GATE-EMITTER VOLTAGE VGE

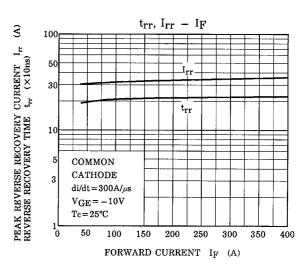
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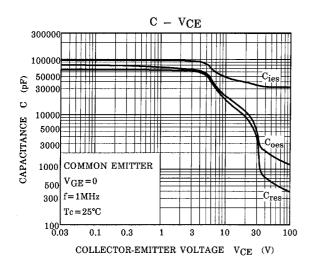
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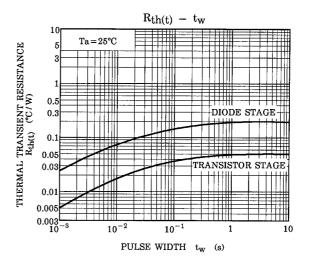




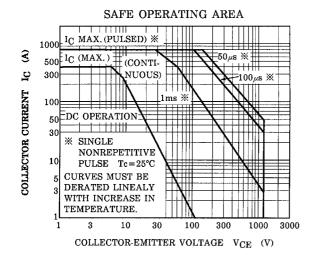


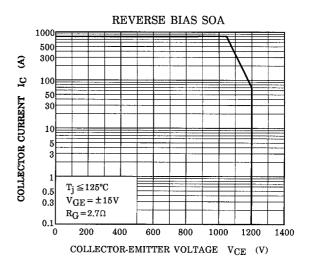






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