

TOSHIBA

MP6757

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

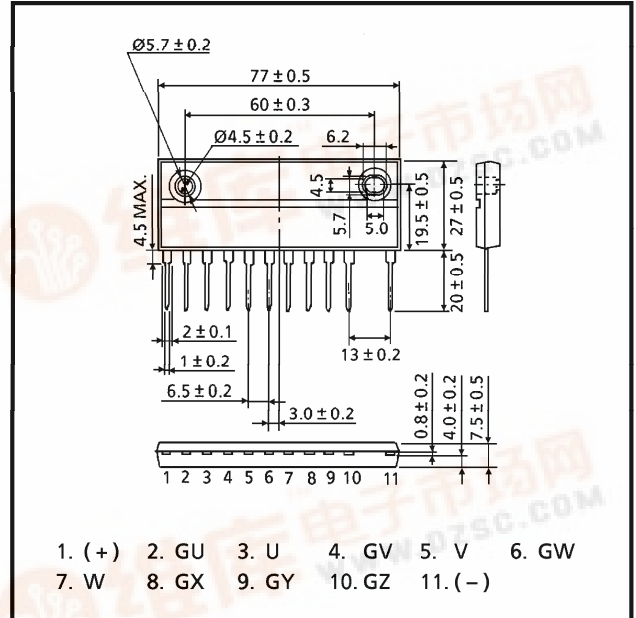
MP6757

HIGH POWER SWITCHING APPLICATIONS

Unit in mm

MOTOR CONTROL APPLICATIONS

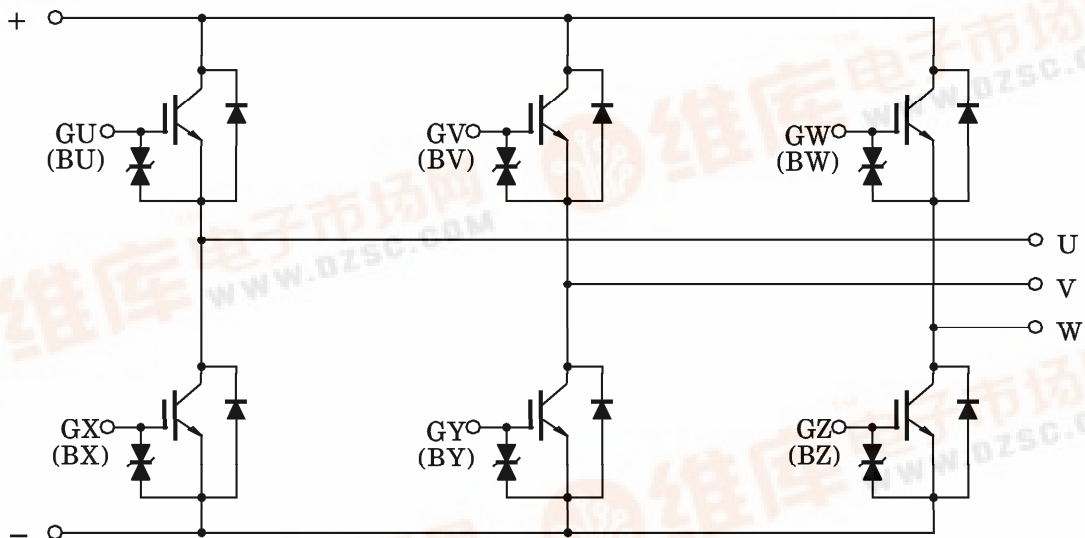
- The electrodes are isolated from case.
- 6 IGBTs and 6 free wheeling diodes are built into 1 package.
- Enhancement-mode
- High speed : $t_f = 0.35 \mu s$ (Max.) ($I_C = 25 A$)
 $t_{rr} = 0.15 \mu s$ (Max.) ($I_F = 25 A$)



JEDEC	—
EIAJ	—
TOSHIBA	2-78A1A

Weight : 44 g

EQUIVALENT CIRCUIT

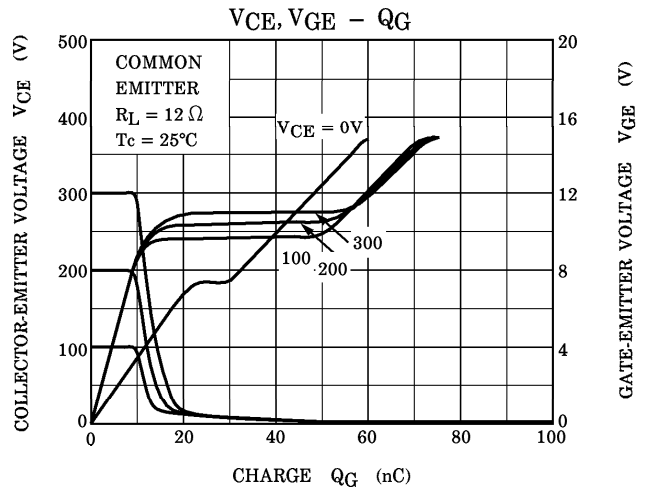
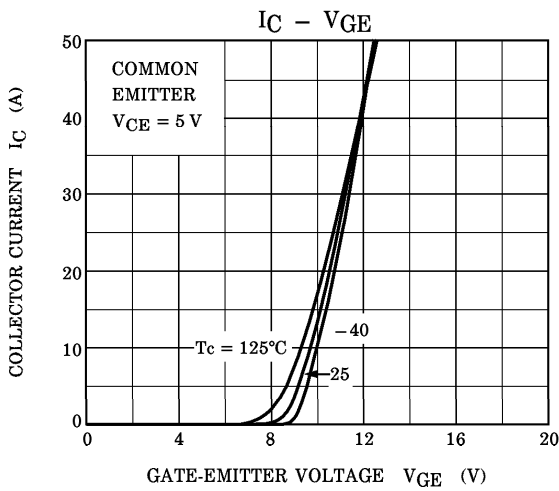
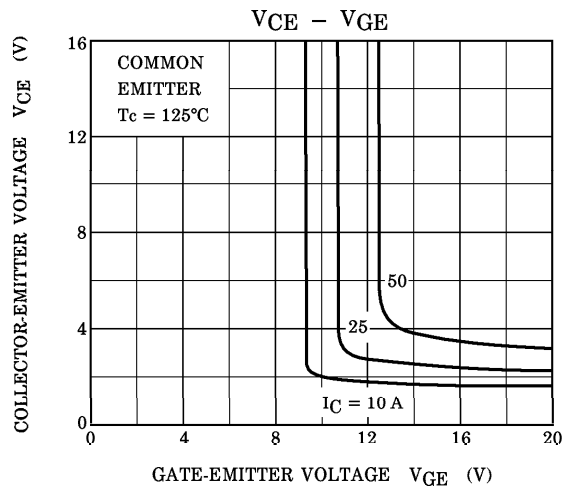
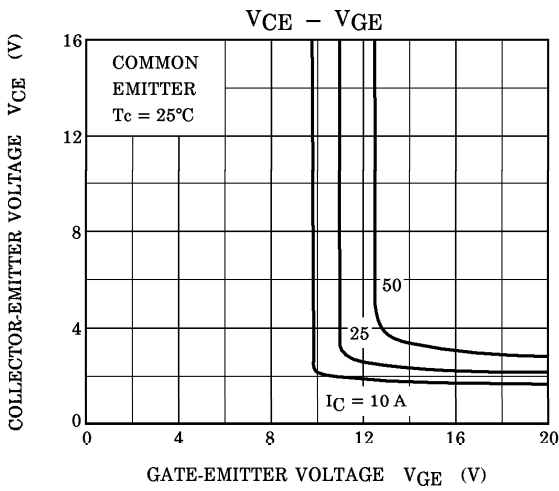
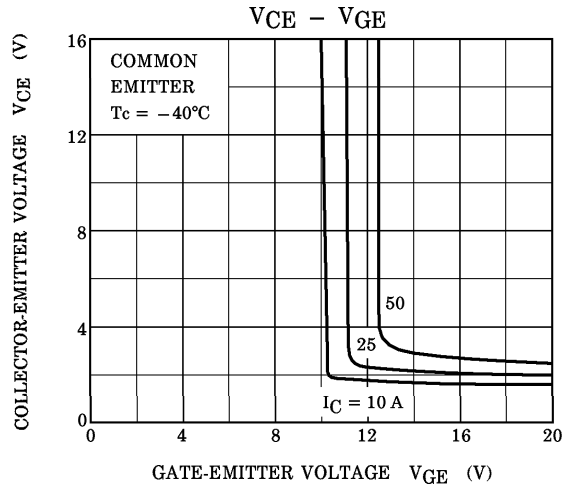
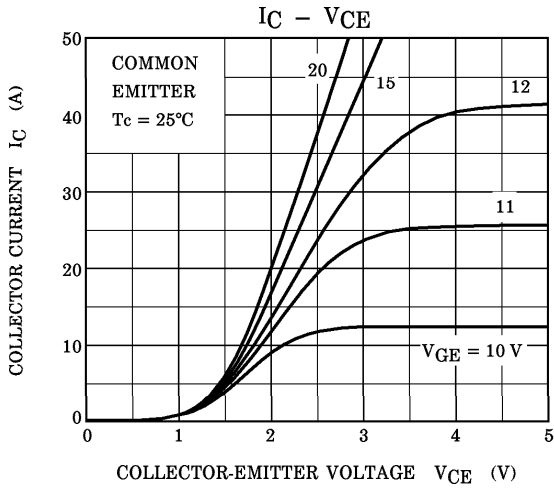


MAXIMUM RATINGS (Ta = 25°C)

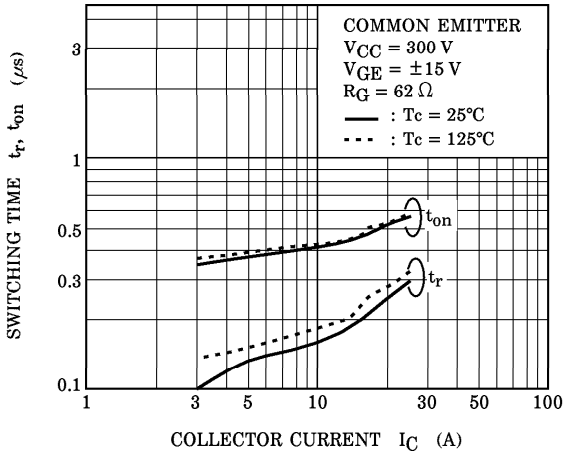
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V _{CES}	600	V
Gate-Emitter Voltage		V _{GES}	± 20	V
Collector Current	DC	I _C	25	A
	1 ms	I _{CP}	50	
Forward Current	DC	I _F	25	A
	1 ms	I _{FM}	50	
Collector Power Dissipation (T _c = 25°C)		P _C	72	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	-40 to 125	°C
Isolation Voltage		V _{Isol}	2500 (AC 1 minute)	V
Screw Torque		—	1.5	N·m

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

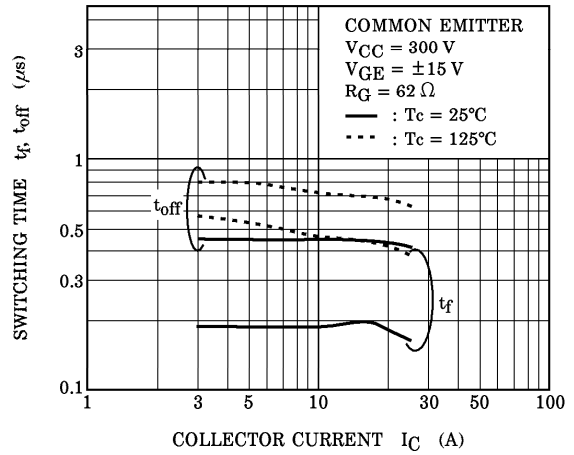
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GES}	V _{GE} = ±20 V, V _{CE} = 0	—	—	± 20	μA
Collector Cut-off Current		I _{CES}	V _{CE} = 600 V, V _{GE} = 0	—	—	1.0	mA
Collector-Emitter Voltage		V _{CES}	I _C = 10 mA, V _{GE} = 0	600	—	—	V
Gate-Emitter Cut-off Voltage		V _{GE (off)}	V _{CE} = 5 V, I _C = 25 mA	5.6	—	8.6	V
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 25 A, V _{GE} = 15 V	—	2.6	3.1	V
Input Capacitance		C _{ies}	V _{CE} = 10 V, V _{GE} = 0, f = 1 MHz	—	1200	—	pF
Switching Time	Rise Time	t _r		—	0.3	0.6	μs
	Turn-on Time	t _{on}		—	0.6	1.0	
	Fall Time	t _f		—	0.2	0.35	
	Turn-off Time	t _{off}		—	0.4	0.7	
Forward Voltage		V _F	I _F = 25 A, V _{GE} = 0	—	2.1	3.2	V
Reverse Recovery Time		t _{rr}	I _F = 25 A, V _{GE} = -10 V, di/dt = 100 A/μs	—	0.08	0.15	μs
Thermal Resistance		R _{th (j-c)}	Transistor	—	—	1.73	°C/W
			Diode	—	—	2.35	



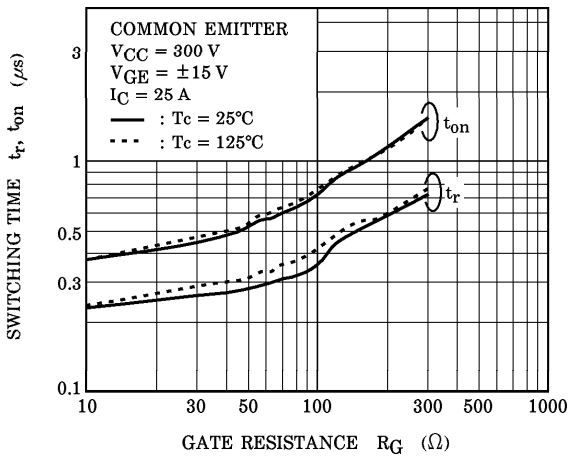
$t_r, t_{on} - I_C$



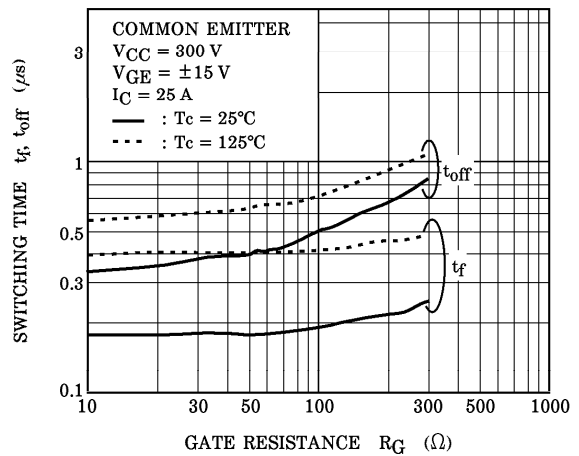
$t_f, t_{off} - I_C$



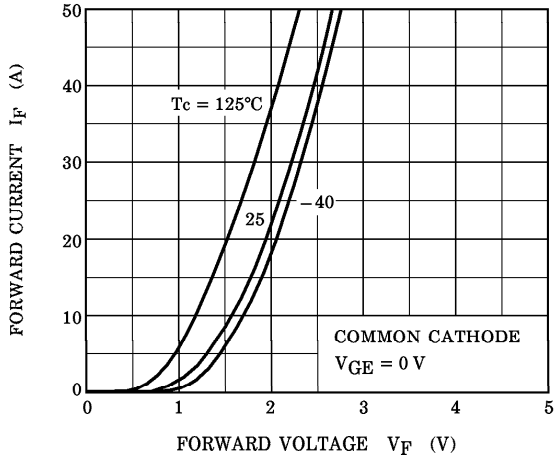
$t_r, t_{on} - R_G$



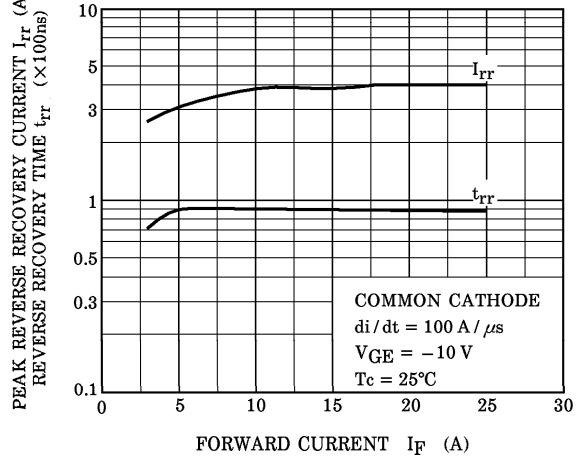
$t_f, t_{off} - R_G$

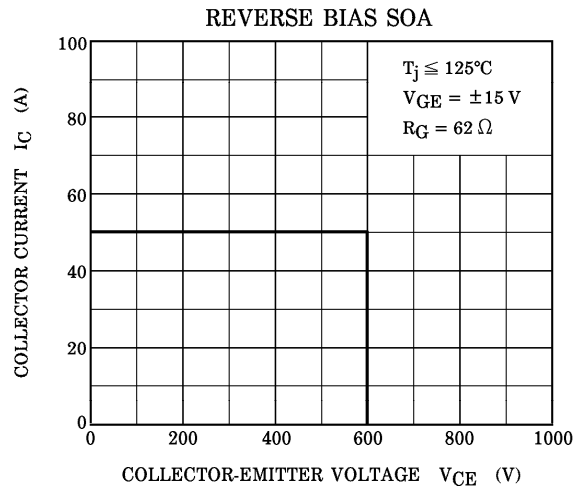
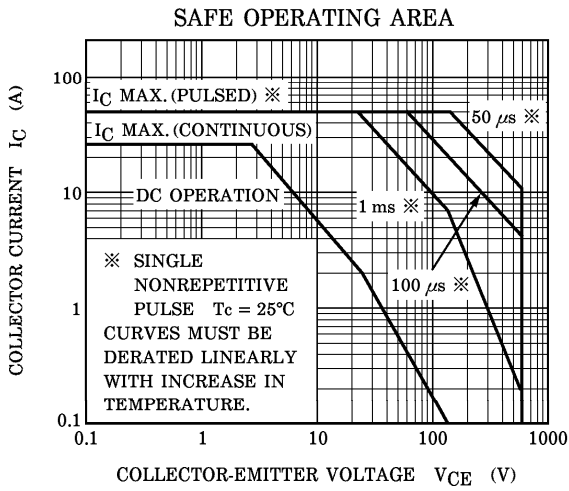
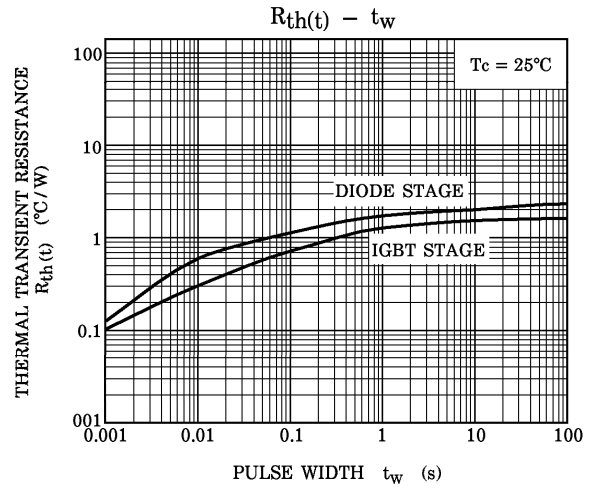
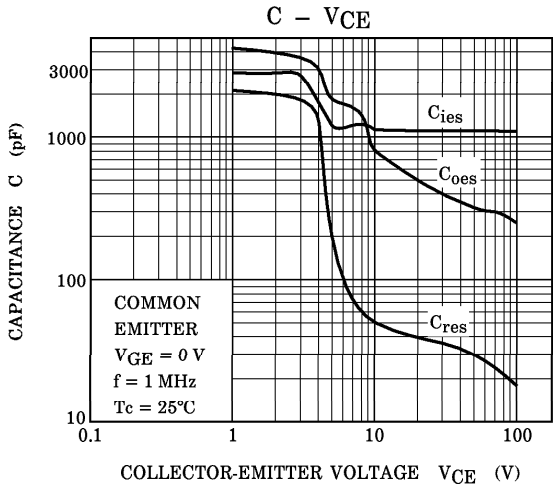


$I_F - V_F$



$t_{rr}, I_{rr} - I_F$





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