

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

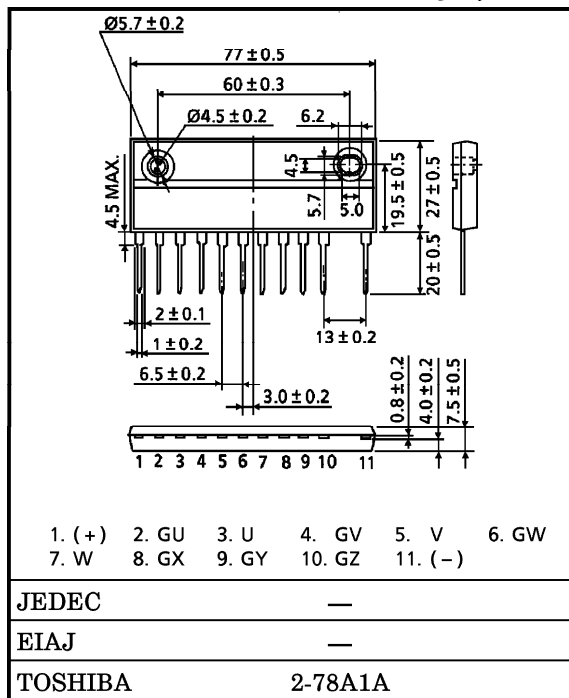
MP6759

MOTOR CONTROL APPLICATIONS

Unit in mm

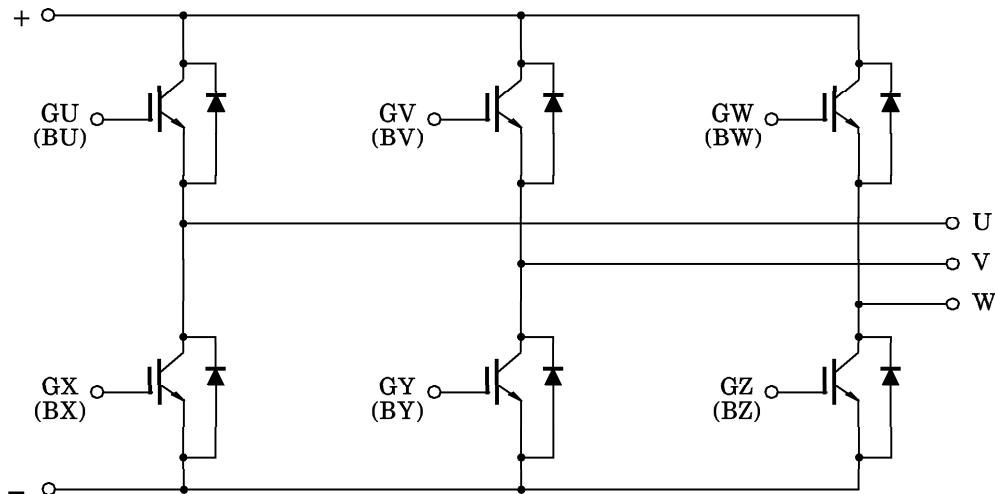
HIGH POWER SWITCHING APPLICATIONS

- The Electrodes are Isolated from Case.
- 6 IGBTs are Built Into 1 Package.
- Enhancement-Mode
- Low Saturation Voltage
: $V_{CE(sat)} = 2.7\text{ V (Max.) (I_C = 10\text{ A})}$
- High Speed
: $t_f = 0.35\ \mu\text{s (Max.) (I_C = 10\text{ A})}$



Weight : 44 g (Typ.)

EQUIVALENT CIRCUIT



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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	10	A
	1 ms	I _{CP}	20	
Forward Current	DC	I _F	10	A
	1 ms	I _{FM}	20	
Collector Power Dissipation (T _c = 25°C)		P _C	40	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	-40~125	°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	—	—	±200	nA
Collector Cut-off Current		I _{CES}	V _{CE} = 600 V, V _{GE} = 0	—	—	1	mA
Gate-Emitter Cut-off Voltage		V _{GE (OFF)}	I _C = 1 mA, V _{CE} = 5 V	5	—	8	V
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 10 A, V _{GE} = 15 V	—	2.1	2.7	V
Input Capacitance		C _{ies}	V _{CE} = 10 V, V _{GE} = 0, f = 1 MHz	—	720	—	pF
Switching Time	Rise Time	t _r		—	0.3	—	μs
	Turn-on Time	t _{on}		—	0.4	—	
	Fall Time	t _f		—	0.2	0.35	
	Turn-off Time	t _{off}		—	0.4	—	
Forward Voltage		V _F	I _F = 10 A, V _{GE} = 0	—	—	2.0	V
Reverse Recovery time		t _{rr}	I _F = 10 A, di/dt = -100 A/μs	—	—	200	ns
Thermal Resistance		R _{th (j-c)}	Transistor	—	—	3.09	°C / W
			Diode	—	—	4.77	

