

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

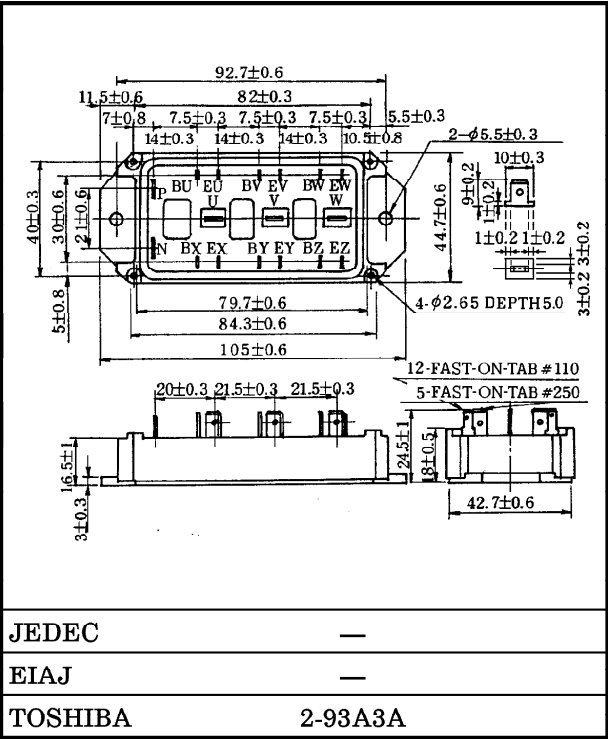
MG8Q6ES42

HIGH POWER SWITCHING APPLICATIONS.

Unit in mm

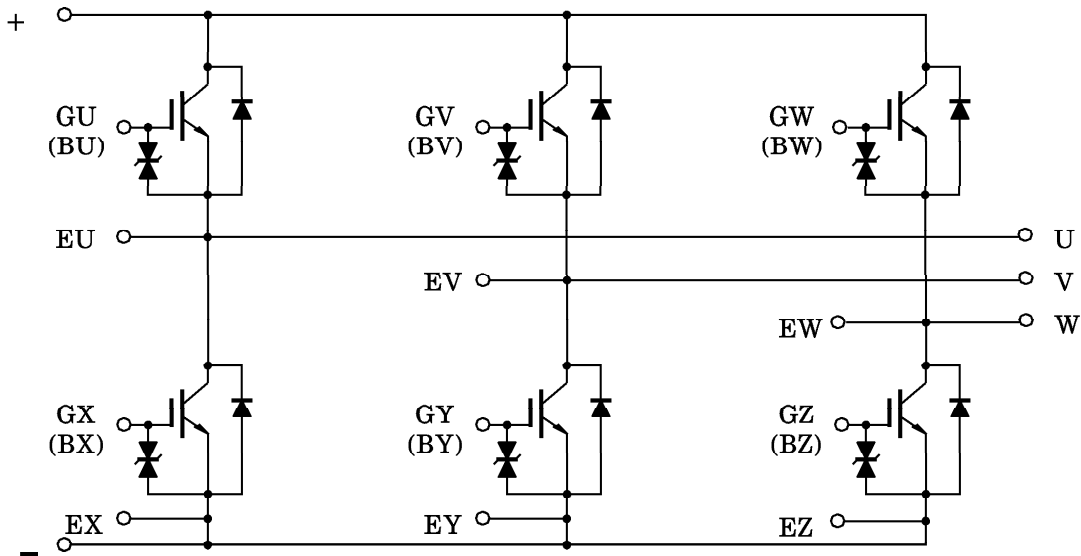
MOTOR CONTROL APPLICATIONS.

- The Electrodes are Isolated From Case.
- 6 IGBTs are Built Into 1 Package.
- Enhancement-Mode
- Low Saturation Voltage
 - : $V_{CE(sat)} = 4.0V(Max.)$
- High Speed : $t_f = 0.5\mu s (Max.)$
 $t_{rr} = 0.5\mu s (Max.)$



Weight : 220g

EQUIVALENT CIRCUIT



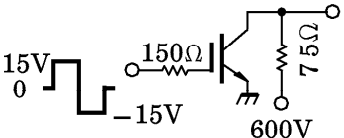
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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V _{CES}	1200	V
Gate-Emitter Voltage		V _{GES}	±20	V
Collector Current	DC	I _C	8	A
	1ms	I _{CP}	16	
Forward Current	DC	I _F	8	A
	1ms	I _{FM}	16	
Collector Power Dissipation		P _C	80	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		—	3	N·m

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GES}	V _{GE} = ±20V, V _{CE} = 0	—	—	±10	μA
Collector Cut-off Current		I _{CES}	V _{CE} = 1200V, V _{GE} = 0	—	—	1.0	mA
Gate-Emitter Cut-off Voltage		V _{GE} (OFF)	I _C = 8mA, V _{CE} = 5V	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C = 8A, V _{GE} = 15V	—	3.0	4.0	V
Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0, f = 1MHz	—	900	—	pF
Switching Time	Rise Time	t _r		—	0.3	0.6	μs
	Turn-on Time	t _{on}		—	0.4	0.8	
	Fall Time	t _f		—	0.25	0.5	
	Turn-off Time	t _{off}		—	0.8	1.5	
Forward Voltage		V _F	I _F = 8A, V _{GE} = 0	—	1.4	2.5	V
Reverse Recovery Time		t _{rr}	I _F = 8A, V _{GE} = −10V di/dt = 100A/μs	—	0.2	0.5	μs
Thermal Resistance	R _{th} (j-c)	Transistor		—	—	1.56	°C/W
		Diode		—	—	1.8	

