

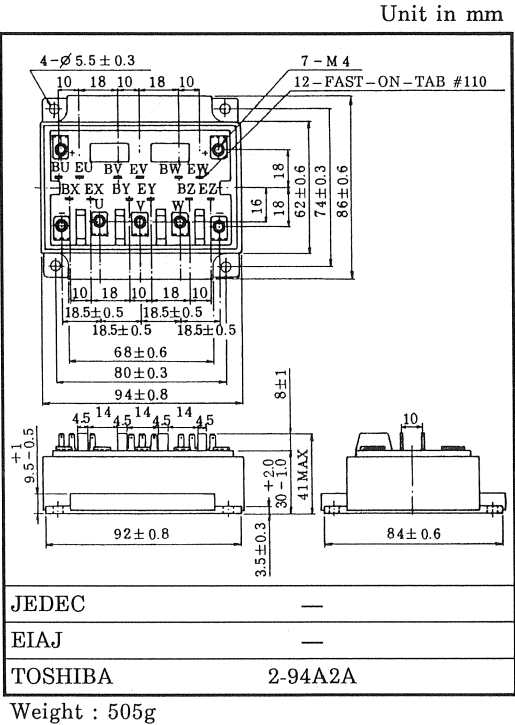
MG75J6ES40

SILICON N CHANNEL IGBT

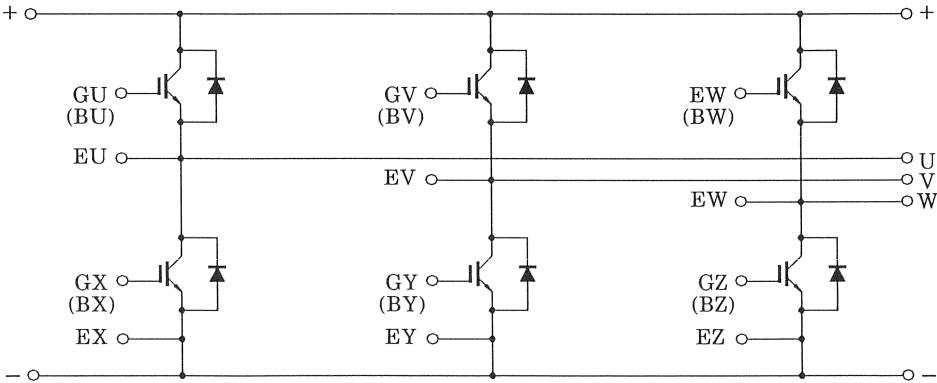
HIGH POWER SWITCHING APPLICATIONS.

MOTOR CONTROL APPLICATIONS.

- The Electrodes are Isolated from Case.
- 6 IGBTs are Built Into 1 Package.
- Enhancement-Mode
- Low Saturation Voltage
: $V_{CE(sat)} = 3.5V$ (Max.)
- High Speed : $t_f = 0.35\mu s$ (Max.)
 $t_{rr} = 0.15\mu s$ (Max.)



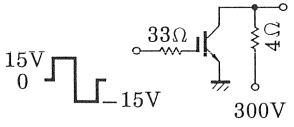
EQUIVALENT CIRCUIT

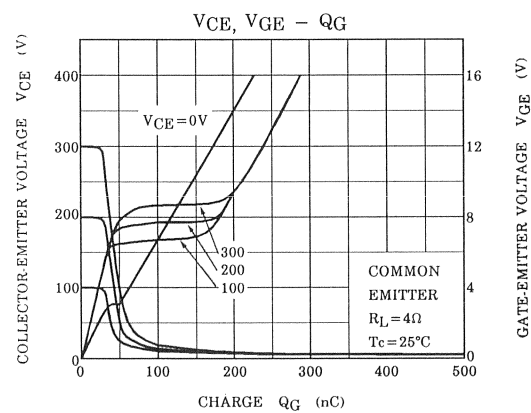
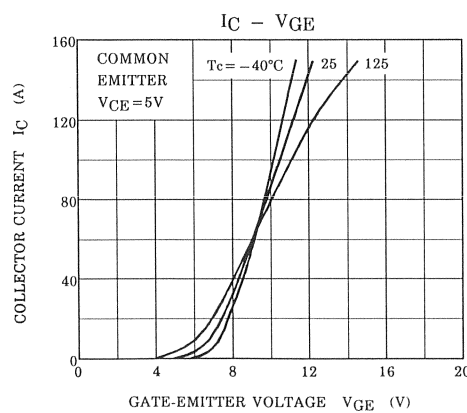
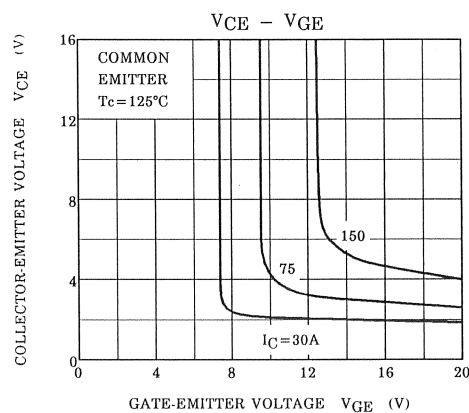
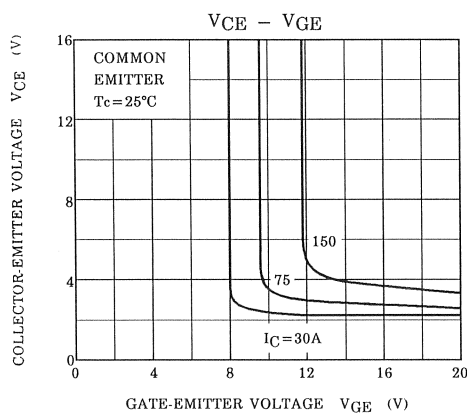
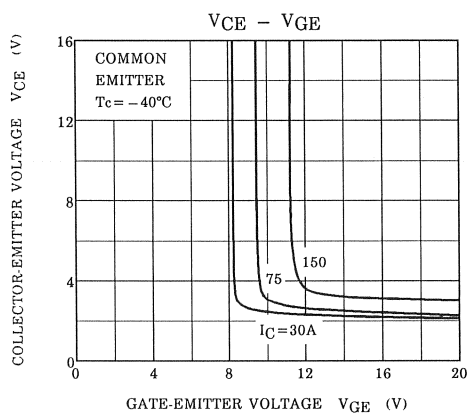
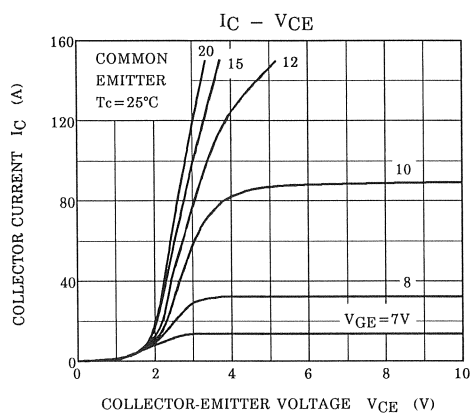


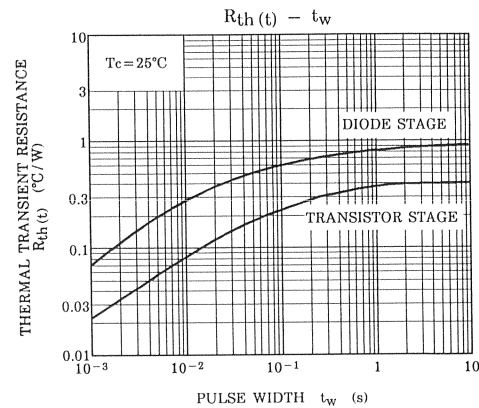
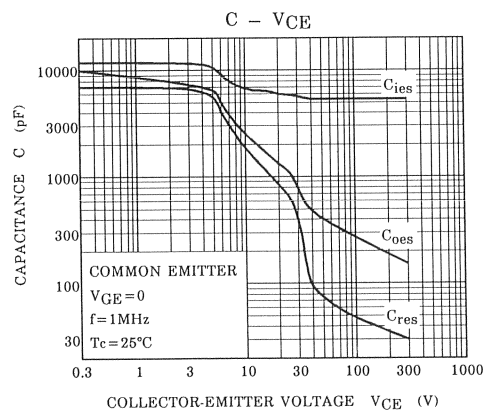
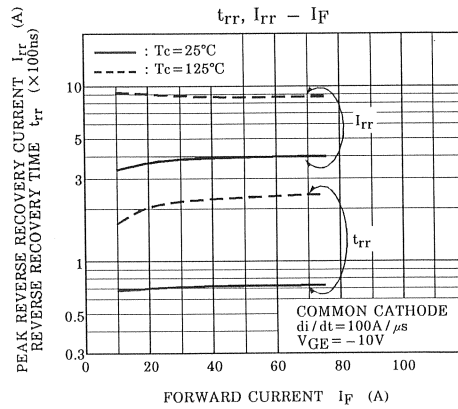
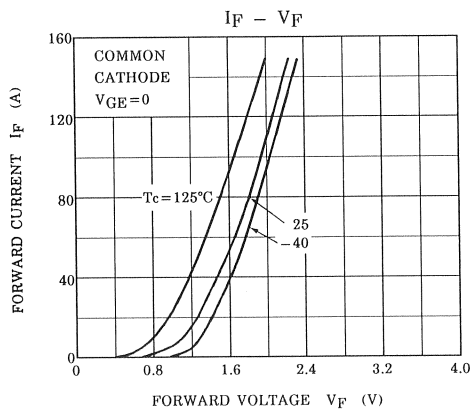
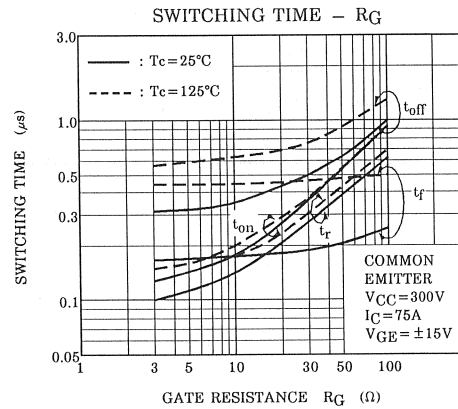
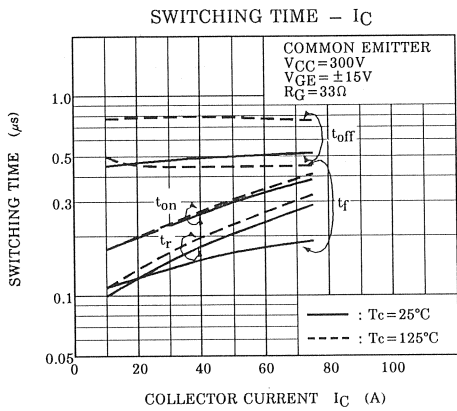
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V _{CES}	600	V
Gate-Emitter Voltage		V _{GES}	± 20	V
Collector Current	DC	I _C	75	A
	1ms	I _{CP}	150	
Forward Current	DC	I _F	75	A
	1ms	I _{FM}	150	
Collector Power Dissipation (Tc = 25°C)		P _C	350	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	−40~125	°C
Isolation Voltage		V _{Isol}	2500 (AC 1 min.)	V
Screw Torque (Terminal / Mounting)		—	2 / 3	Nm

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GES}	V _{GE} = ± 20V, V _{CE} = 0	—	—	± 500	nA
Collector Cut-off Current		I _{CES}	V _{CE} = 600V, V _{GE} = 0	—	—	1.0	mA
Collector-Emitter Breakdown Voltage		V (BR) CES	I _C = 10mA, V _{GE} = 0	600	—	—	V
Gate-Emitter Cut-off Voltage		V _{GE} (off)	I _C = 75mA, V _{CE} = 5V	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		V _{CE} (sat)	I _C = 75A, V _{GE} = 15V	—	2.7	3.5	V
Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0, f = 1MHz	—	6800	—	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		—	0.18	0.35	
	Turn-off Time	t _{off}		—	0.60	1.0	
Forward Voltage		V _F	I _F = 75A, V _{GE} = 0	—	1.7	2.5	V
Reverse Recovery Time		t _{rr}	I _F = 75A, V _{GE} = −10V di / dt = 100A / μs	—	0.08	0.15	μs
Thermal Resistance	R _{th} (j-c)	Transistor		—	—	0.35	°C / W
		Diode		—	—	0.83	





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