

TOSHIBA

INSULATED GATE BIPOLAR TRANSISTOR

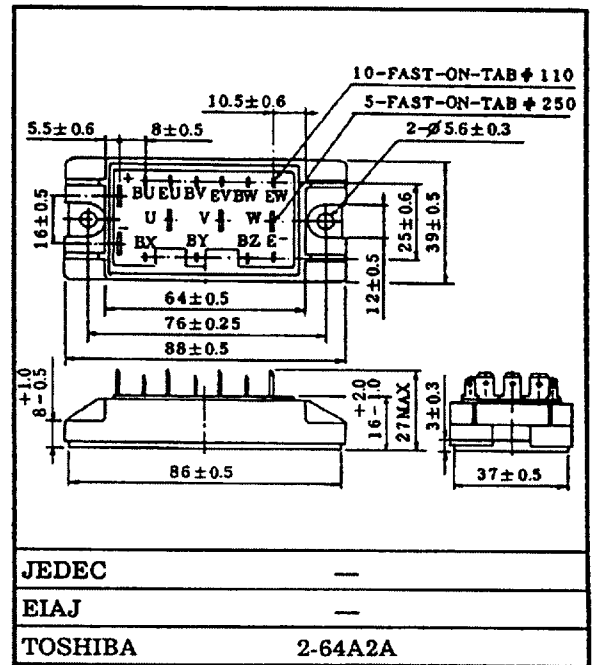
MG8J6ES1

Unit in mm

High Power Switching Applications

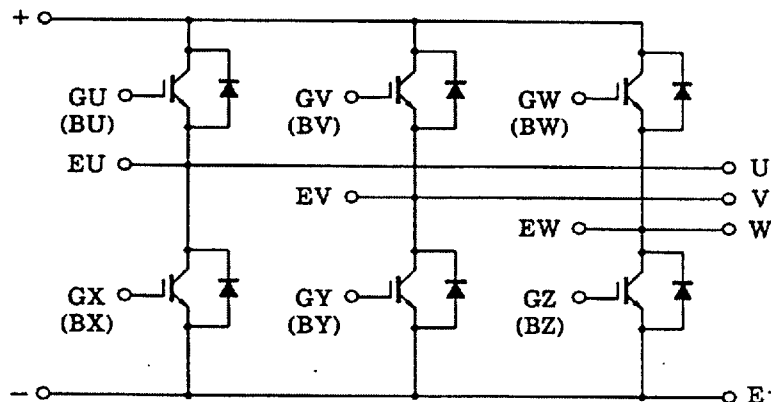
Motor Control Applications

- The Electrodes are Isolated from Case.
- 6 IGBTs are Built Into 1 Package.
- Enhancement-Mode
- Low Saturation Voltage
 - : $V_{CE(sat)} = 4.0V$ (Max.)
- High Speed
 - : $t_f = 0.35\mu s$ (Max.)
 - : $t_{rr} = 0.25\mu s$ (Max.)



Weight : 152g

Equivalent Circuit



The information contained here is subject to change without notice.

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TOSHIBA CORPORATION

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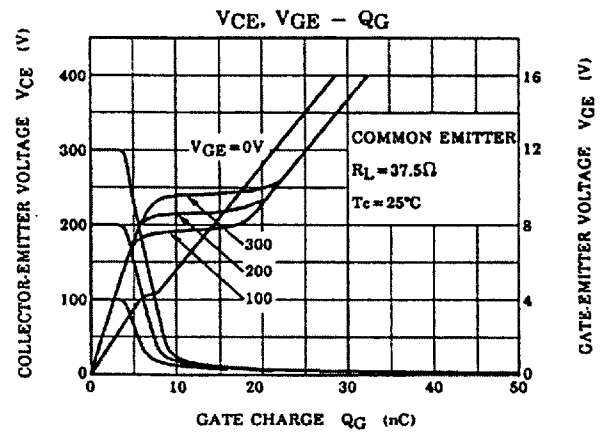
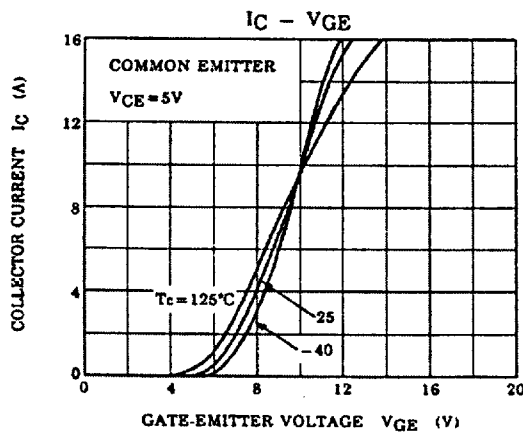
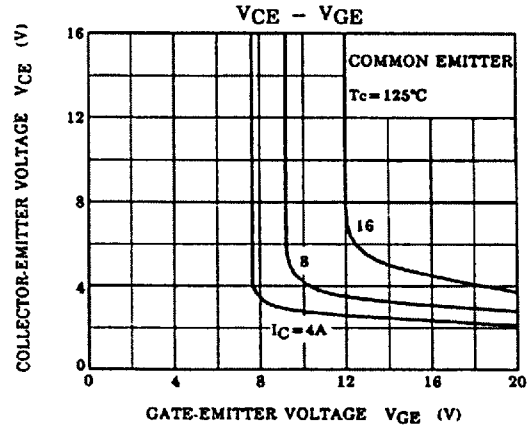
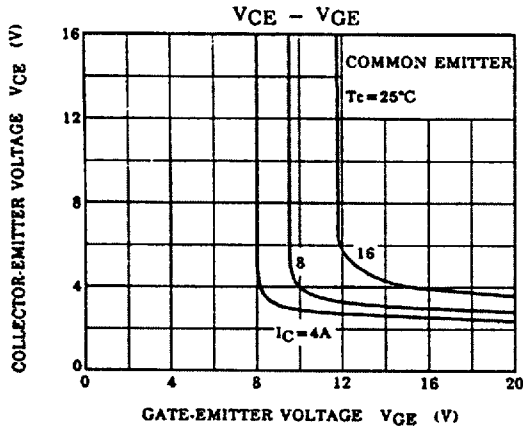
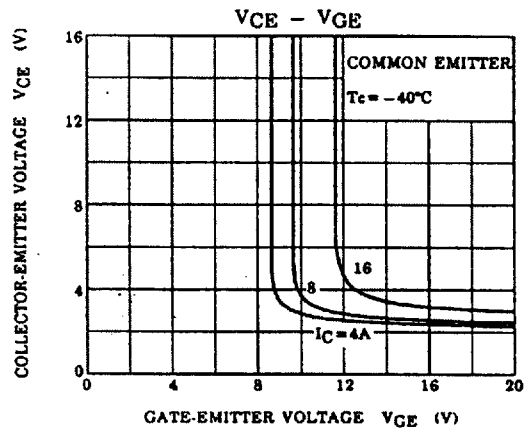
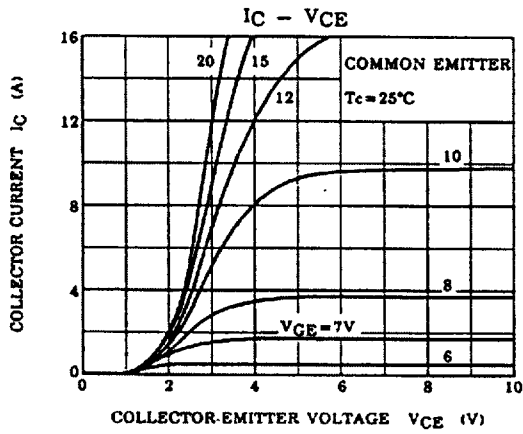
Maximum Ratings (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage		V_{CES}	600	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 (Tc = 25°C)		P_C	50	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

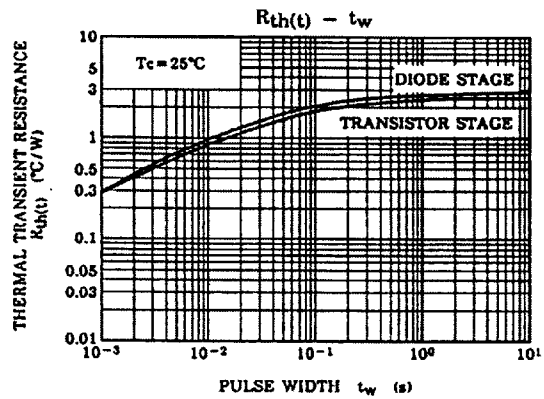
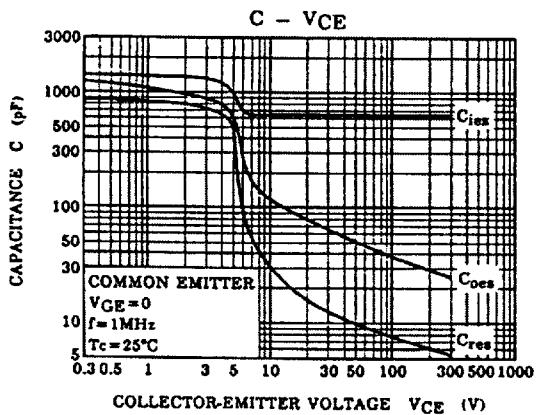
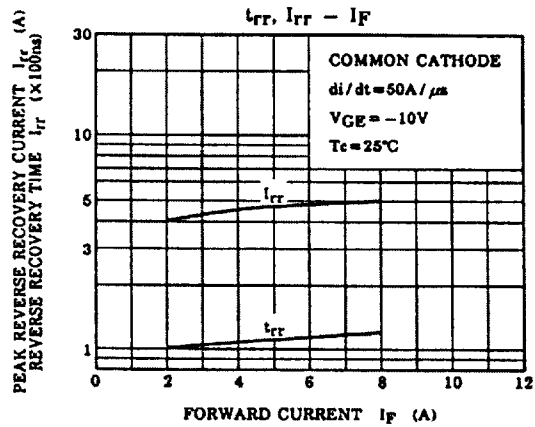
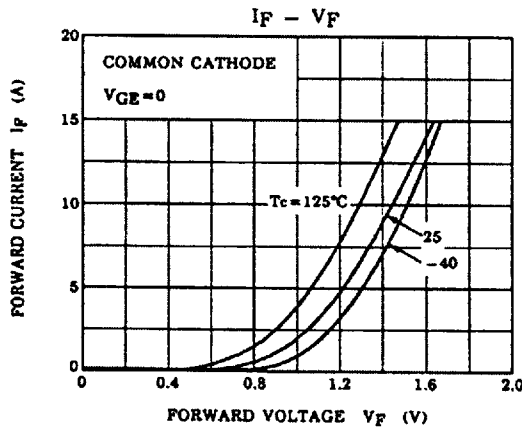
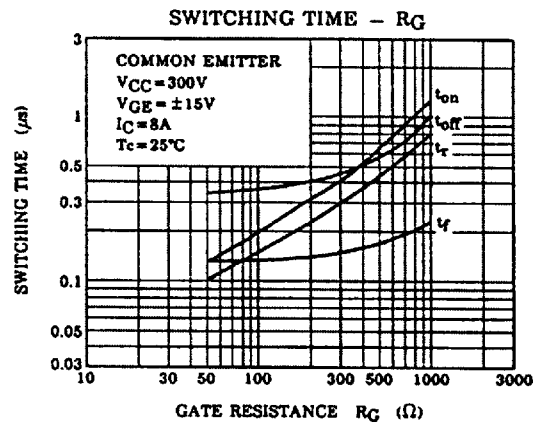
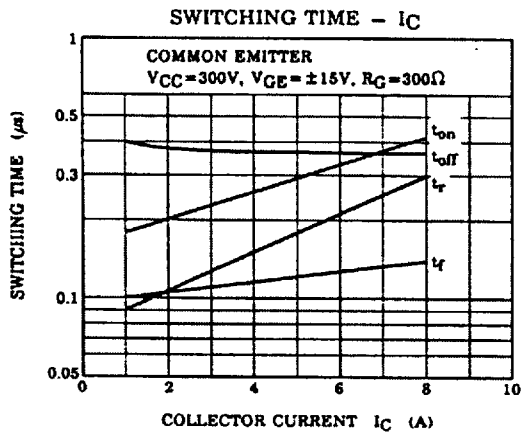
Electrical Characteristics (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MX.	UNIT
Gate Leakage Current		I_{GES}	$V_{GE} = \pm 20V, V_{CE} = 0$	-	-	±500	nA
Collector Cut-off Current		I_{CES}	$V_{CE} = 600V, V_{GE} = 0$	-	-	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}	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$	-	650	-	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		-	0.15	0.35	
	Turn-off Time	t_{off}		-	0.5	1.0	
Forward Voltage		V_F	$I_F = 8A, V_{GE} = 0$	-	1.5	2.5	V
Reverse Recovery Time		t_{rr}	$I_F = 8A, V_{GE} = -10V$ $di/dt = 50A/\mu s$	-	0.15	0.25	μs
Thermal Resistance		$R_{th(j-c)}$	Transistor	-	-	2.50	°C/W
			Diode	-	-	2.80	

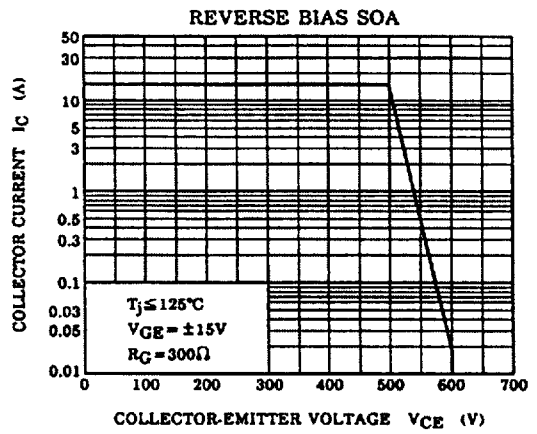
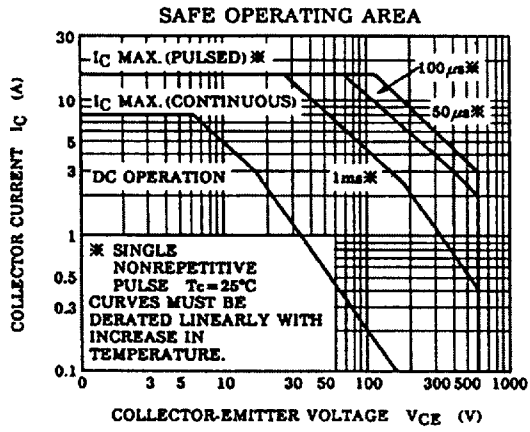
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