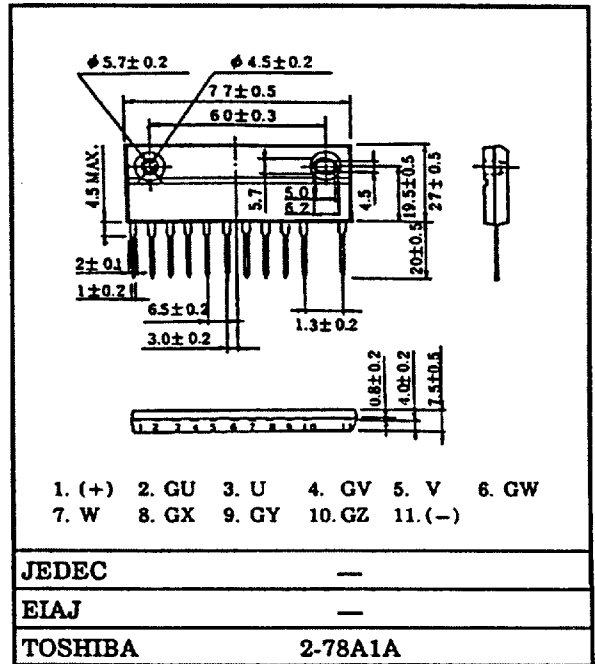


Unit in mm

High Power Switching Applications

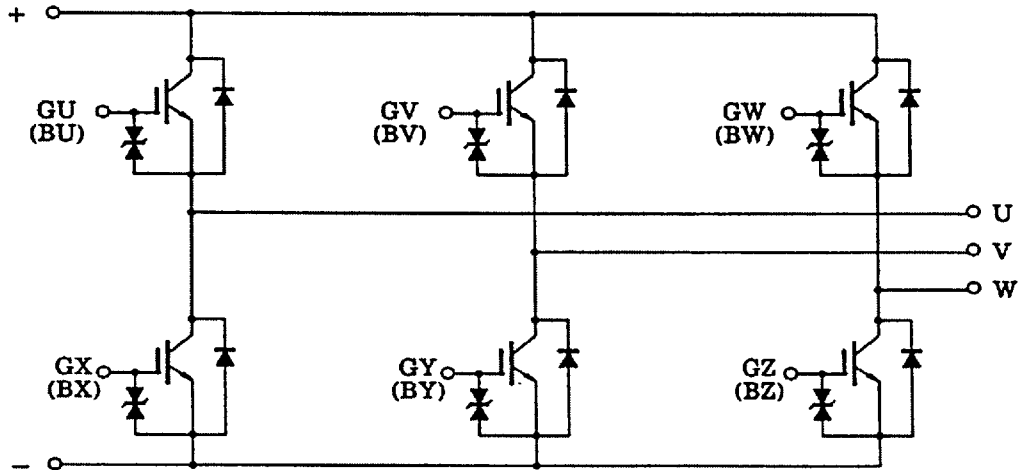
Motor Control Applications

- The Electrodes are Isolated from Case.
- 6 IGBTs are Built Into 1 Package.
- Enhancement-Mode
- Low Saturation Voltage
 - : $V_{CE(sat)} = 2.7V$ (Max.) ($I_C = 20A$)
- High Speed
 - : $t_f = 1.0\mu s$ (Max.) ($I_C = 20A$)
 - : $t_{rr} = 0.15\mu s$ (Max.) ($I_F = 20A$)



Weight : 44g

Equivalent Circuit

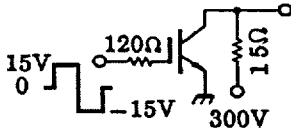


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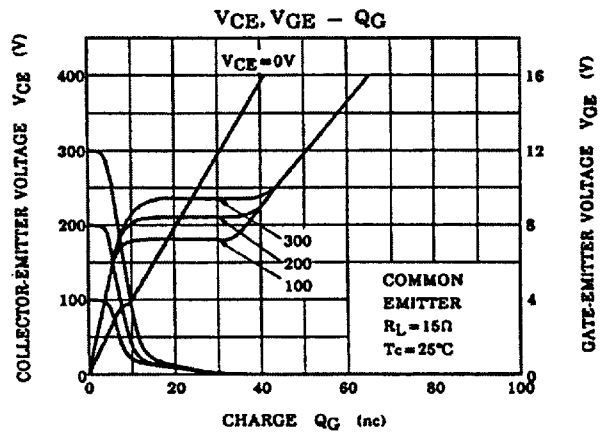
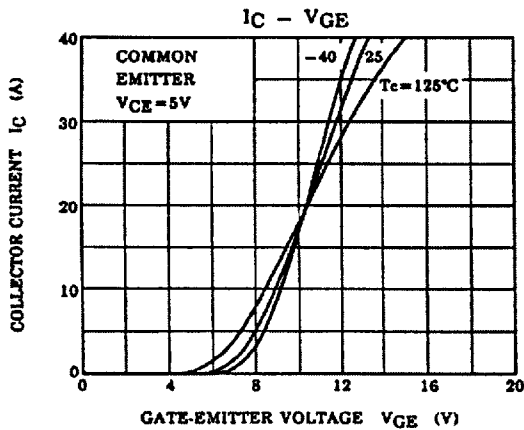
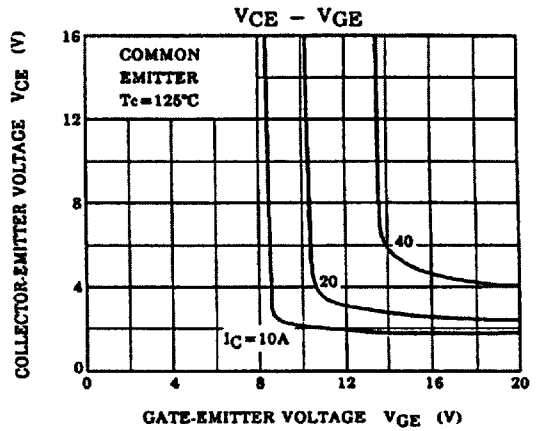
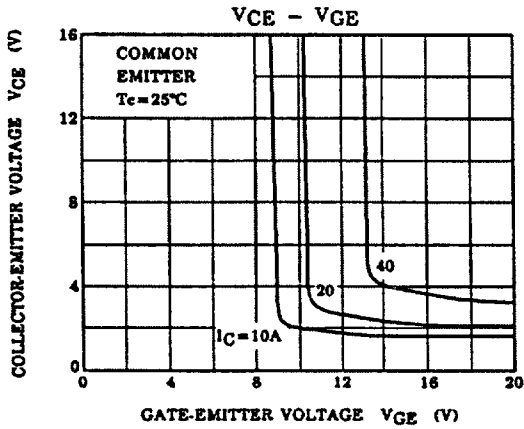
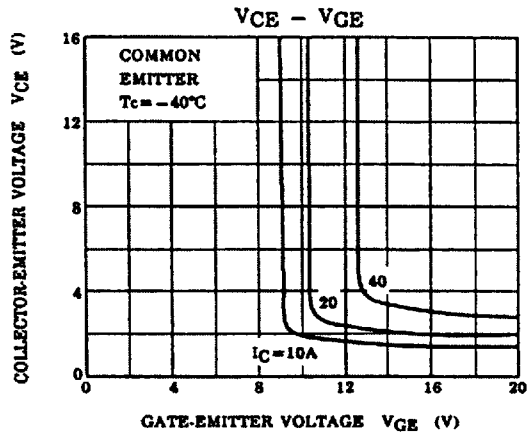
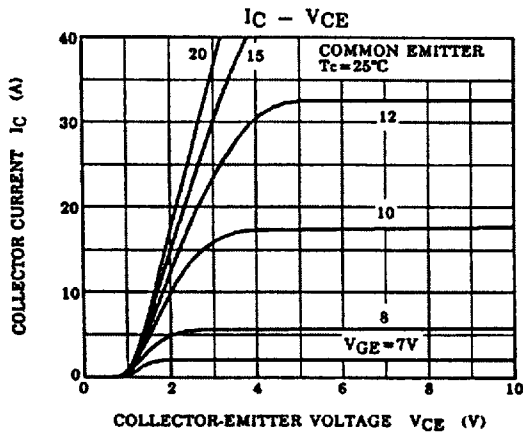
Maximum Ratings (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage		V _{CES}	600	V
Gate-Emitter Voltage		V _{GES}	±20	V
Collector Current	DC	I _C	20	A
	1ms	I _{CP}	40	
Forward Current	DC	I _F	20	A
	1ms	I _{FM}	40	
Collector Power Dissipation (Tc = 25°C)		P _C	60	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

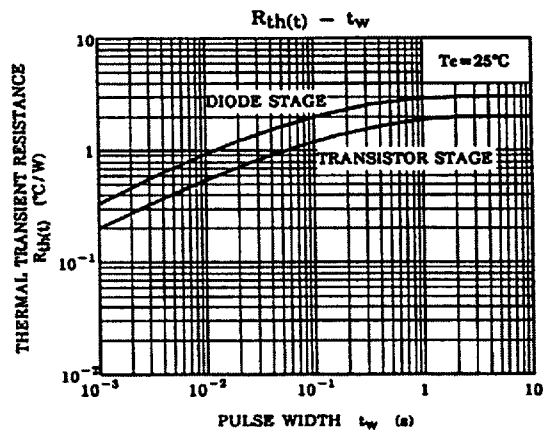
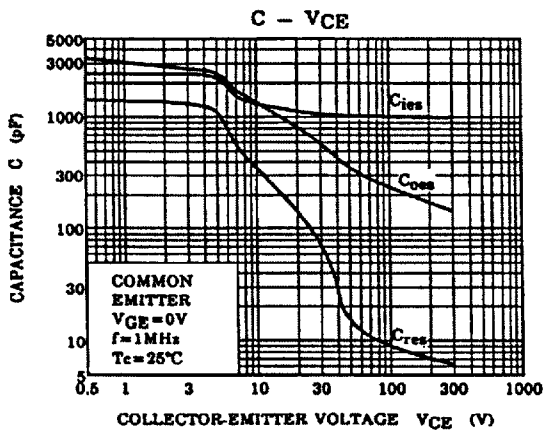
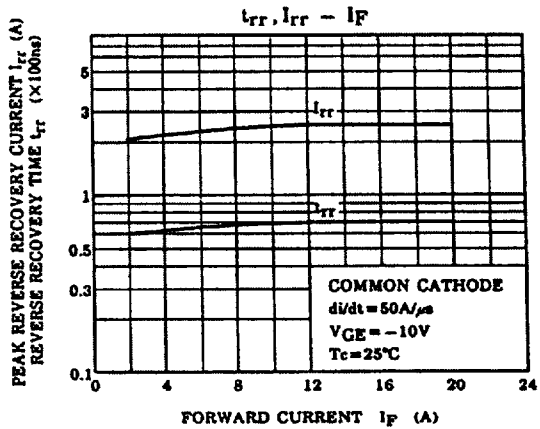
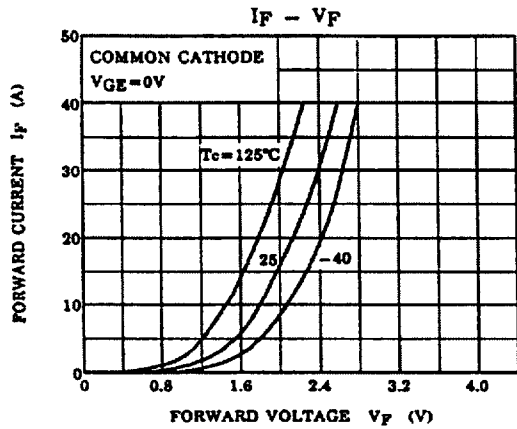
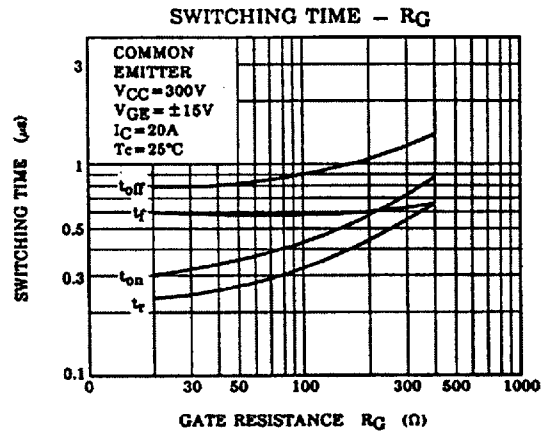
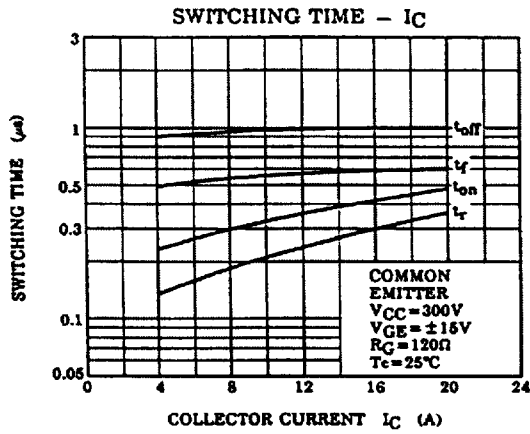
Electrical Characteristics (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MX.	UNIT
Gate Leakage Current		I _{GES}	V _{GE} = ±20V, V _{CE} = 0	—	—	±20	μA
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)}	V _{CE} = 5V, I _C = 20mA	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C = 20A, V _{GE} = 15V	—	2.3	2.8	V
Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0, f = 1MHz	—	1300	—	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		—	0.6	1.0	
	Turn-off Time	t _{off}		—	1.0	1.6	
Forward Voltage		V _F	I _F = 15A, V _{GE} = 0	—	1.7	2.5	V
Reverse Recovery Time		t _{rr}	I _F = 20A, V _{GE} = -10V di/dt = 50A/μs	—	0.08	0.15	μs
Thermal Resistance		R _{th(j-c)}	Transistor	—	—	2.08	°C/W
			Diode	—	—	3.09	

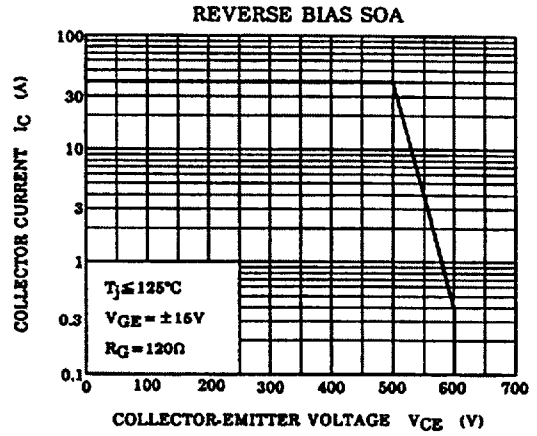
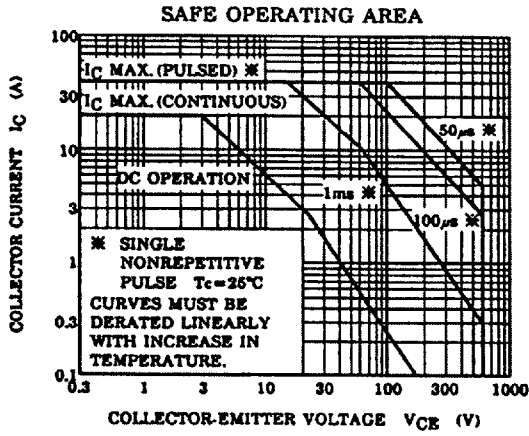
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