

GTR Module

Silicon N Channel IGBT

High Power Switching Applications

Motor Control Applications

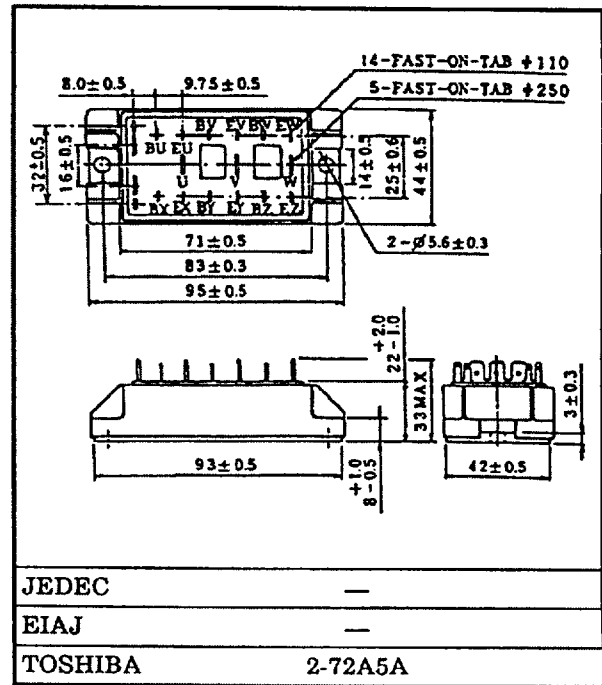
Features

- 6 IGBTs are built into 1 package
- High speed: $t_f = 0.35\mu\text{s}$ (Max.) ($I_C = 25\text{A}$)
 $t_{rr} = 0.15\mu\text{s}$ (Max.) ($I_F = 25\text{A}$)
- Low saturation voltage: $V_{CE(sat)} = 3.5\text{V}$ (Max.) ($I_C = 25\text{A}$)
- Enhancement mode
- The electrodes are isolated from case

Maximum Ratings ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CES}	600	V
Gate-Emitter Voltage	V_{GES}	± 20	V
Collector Current	DC	I_C	25
	1ms	I_{CP}	50
Forward Current	DC	I_F	25
	1ms	I_{FM}	50
Collector Power Dissipation ($T_c = 25^\circ\text{C}$)	P_C	100	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 ~ 125	$^\circ\text{C}$
Isolation Voltage	V_{isol}	2500 (AC 1 Minute)	V
Screw Torque	—	3	N ¥ m

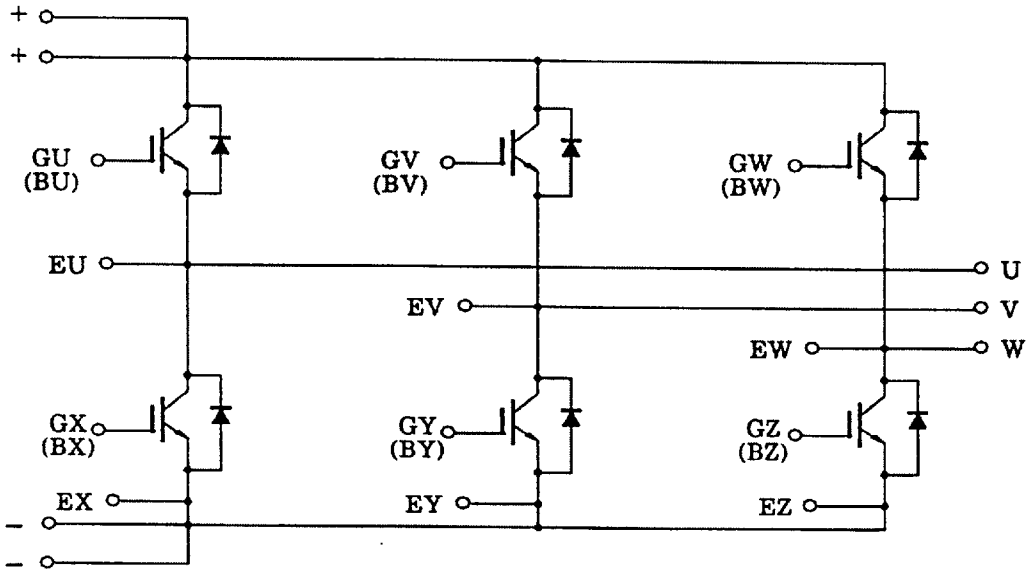
Unit in mm



Weight : 225g

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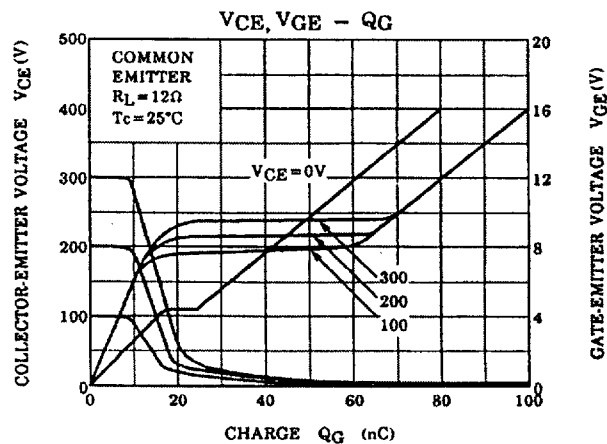
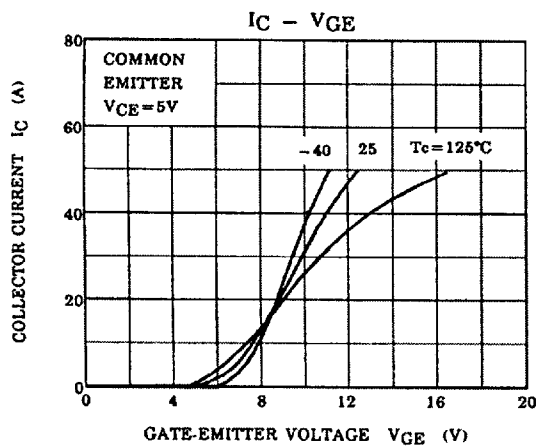
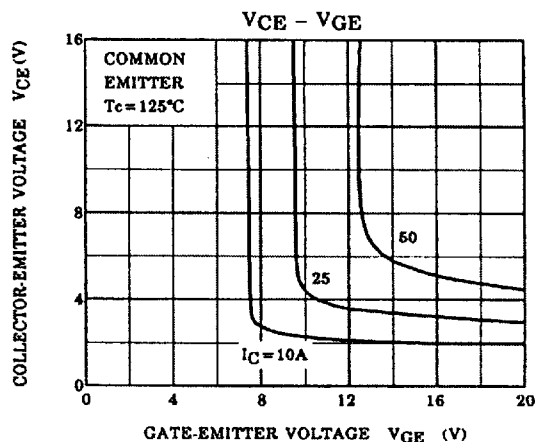
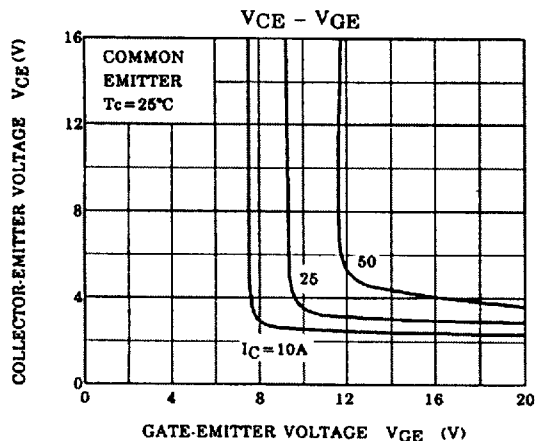
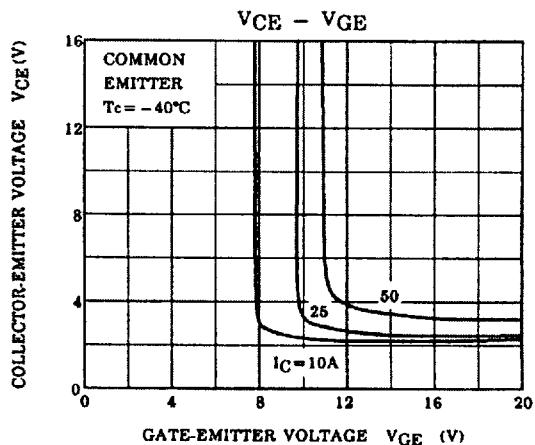
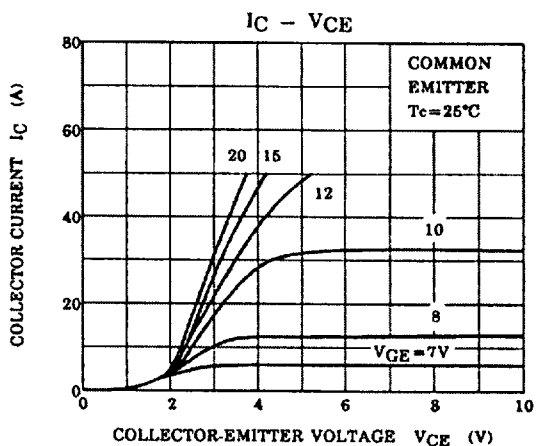
Equivalent Circuit



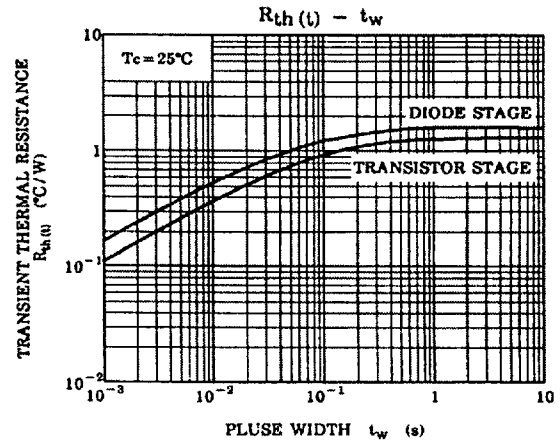
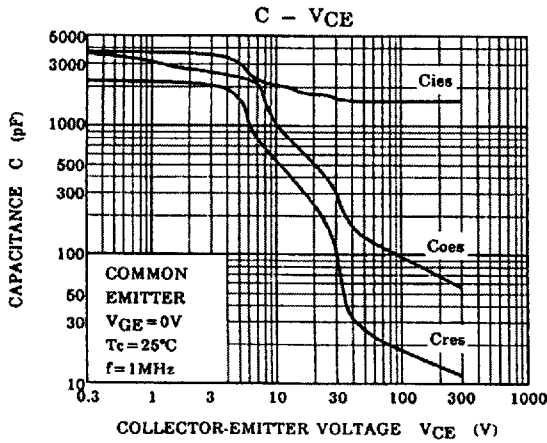
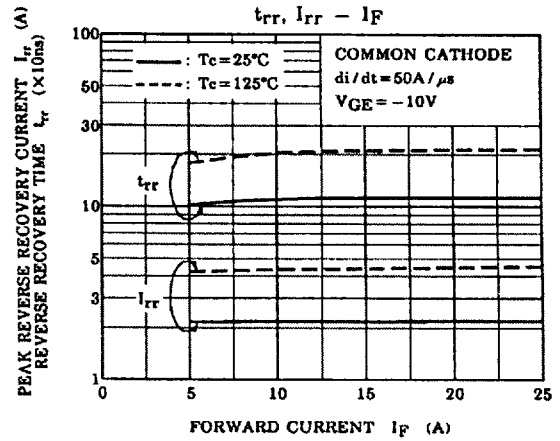
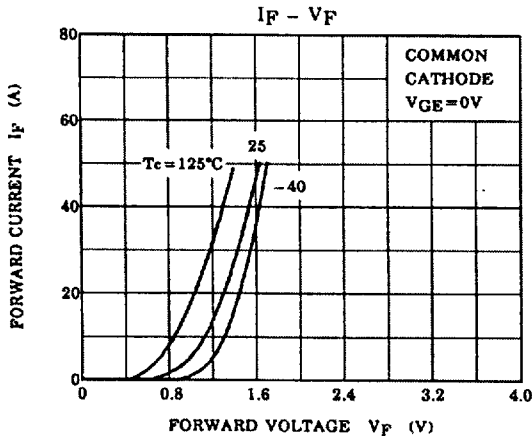
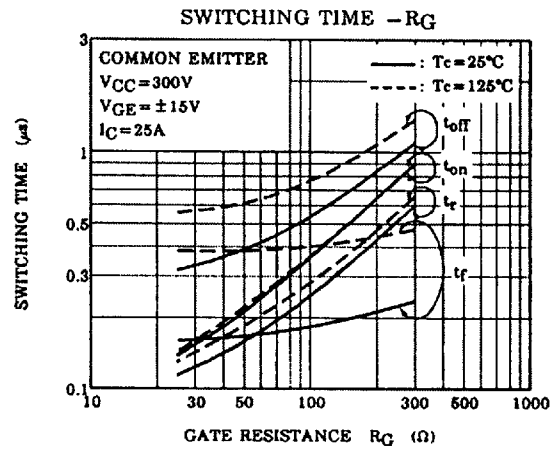
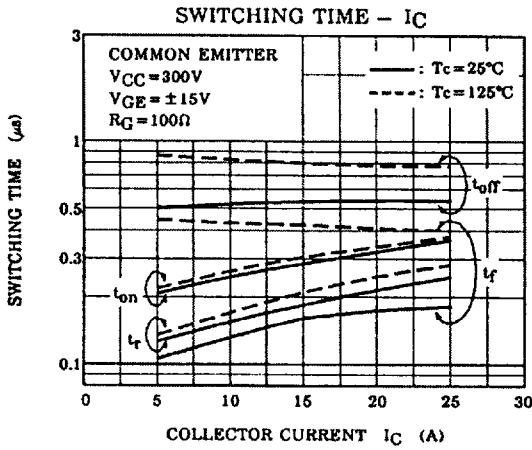
Electrical Characteristics (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	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
Collector-Emitter Breakdown Voltage	$V_{(BR) CES}$	$I_C = 10mA, V_{GE} = 0$	600	—	—	V
Gate-Emitter Cut-off Voltage	$V_{GE (OFF)}$	$I_C = 25mA, V_{CE} = 5V$	3.0	—	6.0	V
Collector-Emitter Saturation Voltage	$V_{CE (sat)}$	$I_C = 25A, V_{GE} = 15V$	—	2.7	3.5	V
Input Capacitance	C_{ies}	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$	—	2000	—	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	$I_F = 25A, V_{GE} = 0$	—	1.7	2.5	V
Reverse Recovery Time	t_{rr}	$I_F = 25A, V_{GE} = -10V, di/dt = 50A/\mu s$	—	0.08	0.15	μs
Thermal Resistance	$R_{th (j - c)}$	Transistor	—	—	1.25	$^{\circ}C/W$
		Diode	—	—	1.56	

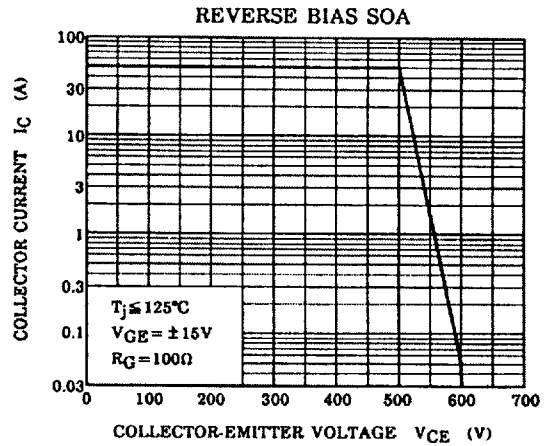
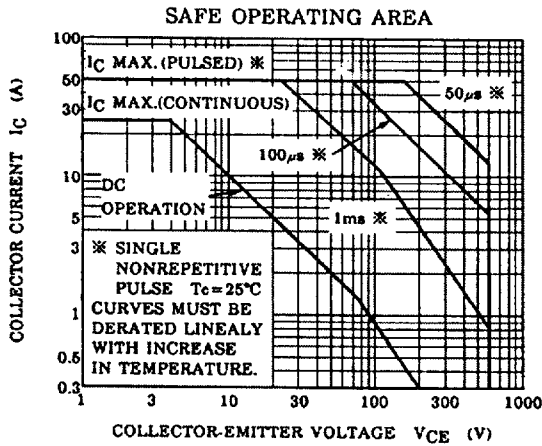
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