

IGBT Dual Transistor

MG400J2YS50

600V / 400A

DATASHEET

OEM – Toshiba

Source: Toshiba Databook 1995/96

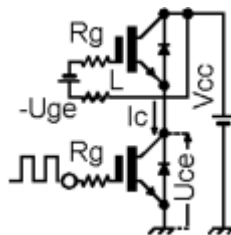
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		Vces	600	V
Gate-Emitter Voltage		Vges	+/-20	V
Collector Current	DC	IC	400	A
	1ms	Icp	800	A
Forward Current	DC	If	400	A
	1ms	Ifm	800	A
Collector Power Dissipation		Pc	1800	W
Junction Temperature		Tj	150	°C
Storage Temperature Range		Tstg	-40~125	°C
Isolation Voltage		Visol	2500 (AC 1min.)	V
Screw Torque (Terminal / Mounting)		-	3/3	N*m

ELECTRICAL CHARACTERISTICS (Ta=25°C)

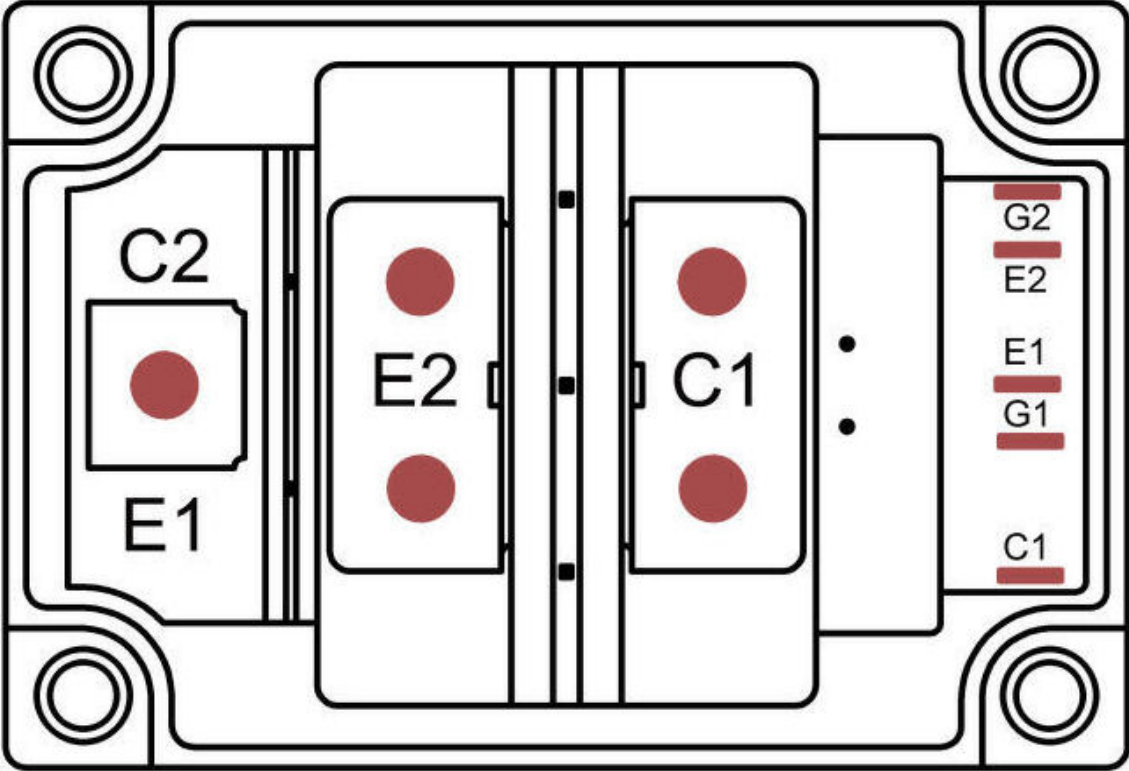
CHARACTERISTICS		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		Iges	Uge=+/-20V, Vce=0	-	-	+500	nA
Collector Cut-off Current		Ices	Uce=600V, Uge=0	-	-	3.0	mA
Gate-Emitter Cut-off Voltage		Uge (off)	Ic=40mA, Uce=5V	5.0	7.0	8.0	V
Collector-Emitter Saturation Voltage		Uce (sat)	IC=400A, Uge=15V	-	2.1	2.7	V
Input Capacitance		Cies	Uce=10V, Uge=0, f=1MHz	-	46500	-	pF
Switching Time	Turn-on Delay	td(on)	Inductive Load Vcc=300V, Ic=400A, Uge=+/-15V, Rg=2.4R (Note1)	-	0.25	0.50	uS
	Rise Time	tr		-	0.12	0.24	
	Turn-on Time	ton		-	0.40	0.80	
	Turn-off Delay	td (off)		-	0.30	0.60	
	Fall Time	tf		-	0.15	0.30	
	Turn-off Time	toff		-	0.50	1.00	
Forward Voltage		Vf	If=400A, Uge=0	-	2.30	3.00	V
Reverse Recovery Time		trr	If=400A, Uge=-10V di/dt=400A/uS	-	0.08	0.15	uS
Thermal Resistance	Rth (j-c)		Transistor	-	-	0.069	°C/W
			Diode	-	-	0.17	
	Rth (c-f)		Case to Fin (Note 2)	-	-	0.10	

Note 1



Note 2: Silicone Grease is applied

2-109D1A



EQUIVALENT CIRCUIT

