

# IGBT Transistor

## **MG400J1US51**

600V / 400A

# DATASHEET

OEM – Toshiba

Source: Toshiba Databook 1995/96

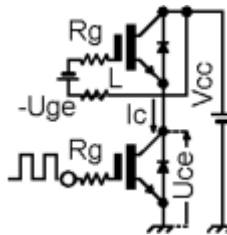
## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	Vces	600	V
Gate-Emitter Voltage	Vges	+/-20	V
Collector Current	DC	IC	400
	1ms	Icp	800
Forward Current	DC	If	400
	1ms	Ifm	800
Collector Power Dissipation	Pc	1500	W
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	-40~125	°C
Isolation Voltage	Visol	2500 (AC 1min.)	V
Screw Torque (Terminal / M4 / M6 / Mounting)	-	2/3/3	N*m

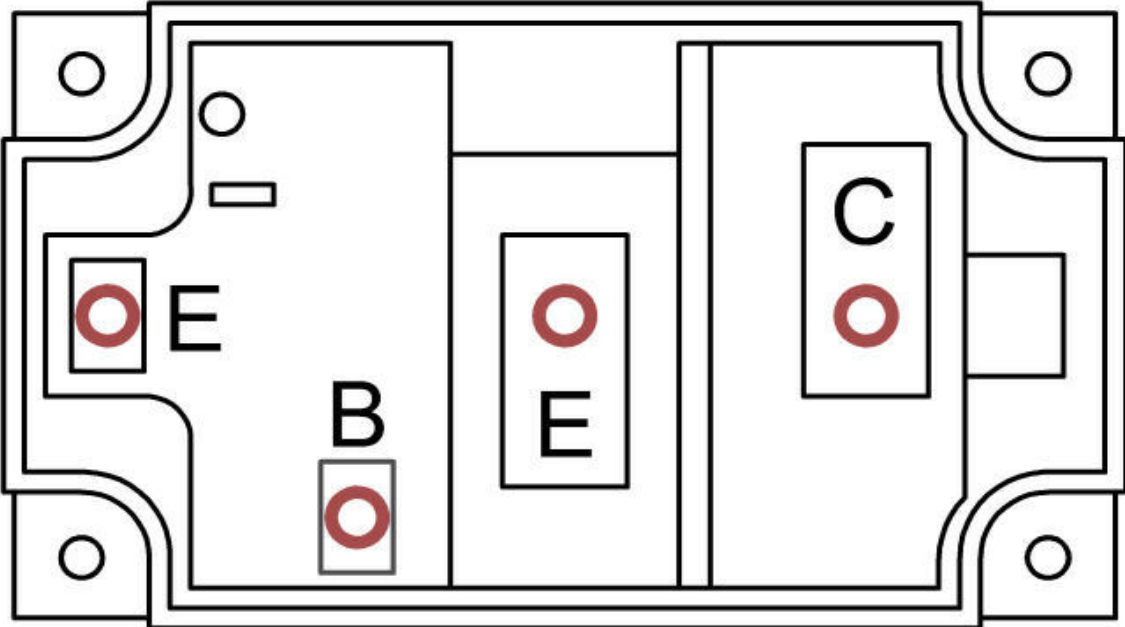
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	-	-	4.0	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	-	36000	-	pF
Switching Time	Turn-on Delay	td(on)	-	0.20	0.40	uS
	Rise Time	tr	-	0.15	0.30	
	Turn-on Time	ton	-	0.60	1.20	
	Turn-off Delay	td (off)	-	0.20	0.40	
	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	-	-	0.083	°C/W
		Diode	-	-	0.20	

Note 1



2-109A4A



EQUIVALENT CIRCUIT

