

# IGBT Transistor

## **MG50J1ZS40**

600V / 50A

# DATASHEET

OEM – Toshiba

Source: Toshiba Databook 1995/96

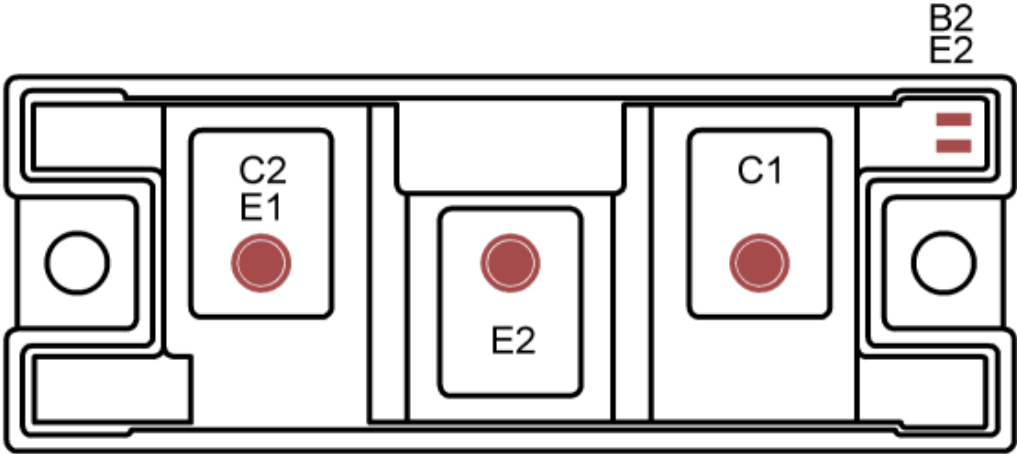
## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	Vces	600	V
Gate-Emitter Voltage	Vges	+/-20	V
Collector Current	DC	IC	50
	1ms	Icp	100
Forward Current	DC	If	50
	1ms	Ifm	100
Collector Power Dissipation	Pc	250	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	-	-	1.0	mA
Collector-Emitter Breakdown Voltage	U(br) CES	Ic=10mA, Uge=0	600	-	-	V
Gate-Emitter Cut-off Voltage	Uge (off)	Ic=50mA, Uce=5V	3.0	-	6.0	V
Collector-Emitter Saturation Voltage	Uce (sat)	IC=50A, Uge=15V	-	2.7	3.5	V
Input Capacitance	Cies	Uce=10V, Uge=0, f=1MHz	-	4000	-	pF
Switching Time	Rise Time	tr	-	0.30	0.60	uS
	Turn-on Time	ton	-	0.40	0.80	
	Fall Time	tf	-	0.18	0.35	
	Turn-off Time	toff	-	0.60	1.00	
Forward Voltage	Vf	If=50A, Uge=0	-	1.70	2.50	V
Reverse Recovery Time	trr	If=50A, Uge=-10V di/dt=100A/uS	-	0.08	0.15	uS
Termal Resistance	Rth (j-c)	Transistor	-	-	0.50	°C/W
		Diode	-	-	1.00	

2-94D2A



EQUIVALENT CIRCUIT

