



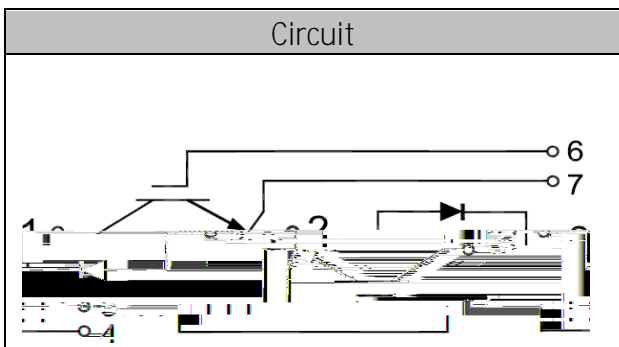
# MG75HF12TLC1

## IGBT Modules

$V_{CES}$	1200V
$I_c$	75A

## Applications

Inverter for motor drive  
AC and DC servo drive amplifier  
UPS (Uninterruptible Power Supplies)  
Soft switching welding machine



## Features

Low  $V_{ce(sat)}$  with Trench technology  
 $V_{ce(sat)}$  with positive temperature coefficient  
High short circuit capability(10us)  
Including ultra fast & soft recovery anti-parallel FWD  
Low inductance  
Maximum junction temperature 175

## ● IGBT

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Collector-Emitter Voltage	$V_{CES}$	$V_{GE}=0V, I_c = 1mA, T_{vj}=25$	1200	V
Continuous Collector Current	$I_c$	$T_c=100$	75	A
Repetitive Peak Collector Current	$I_{CRM}$	$t_p=1ms$	150	A
Gate-Emitter Voltage	$V_{GES}$	$T_{vj}=25$	20	V
Total Power Dissipation	$P_{lot}$	$T_c=25$ $T_{vjmax}=175$	530	W



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## Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Gate-emitter Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C = 3mA, T_{vj}=25$	5.0	6.2	7.0	V
Collector-Emitter Cut-off Current	$I_{CES}$	$V_{CE}=1200V, V_{GE}=0V, T_{vj}=25$			1.0	mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=75A, V_{GE}=15V, T_{vj}=25$		1.85		V
		$I_C=75A, V_{GE}=15V, T_{vj}=125$		2.05		



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## ● Diode

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	$T_{vj}=25$	1200	V
Continuous DC Forward Current	$I_F$		75	A
Repetitive Peak Forward Current	$I_{FRM}$	$t_p=1ms$	150	A

### Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	$V_F$	$I_F=75A, T_{vj}=25$		2.10		V
		$I_F=75A, T_{vj}=125$		2.00		
Recovered Charge	$Q_{rr}$	$I_F=75A$		4.8		$\mu C$
Peak Reverse Recovery Current	$I_{rr}$	$V_R=600V$ $-di_F/dt=1200A/\mu s$		60		A
Reverse Recovery Energy	$E_{rec}$	$T_{vj}=25$		3.8		mJ
Recovered Charge	$Q_{rr}$	$I_F=75A$		10.2		$\mu C$
Peak Reverse Recovery Current	$I_{rr}$	$V_R=600V$ $-di_F/dt=1200A/\mu s$		77		A
Reverse Recovery Energy	$E_{rec}$	$T_{vj}=125$		5.7		mJ



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## ● Module Characteristics

$T_c=25^{\circ}\text{C}$  unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Isolation voltage	$V_{\text{isol}}$	$t=1\text{min}, f=50\text{Hz}$	2500			V
Maximum Junction Temperature	$T_{\text{jmax}}$				175	

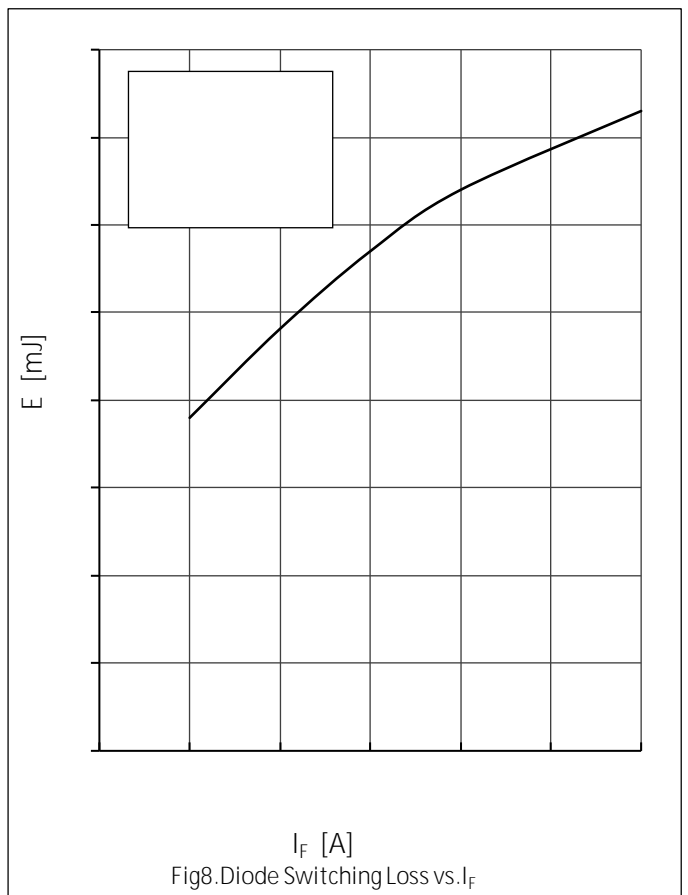
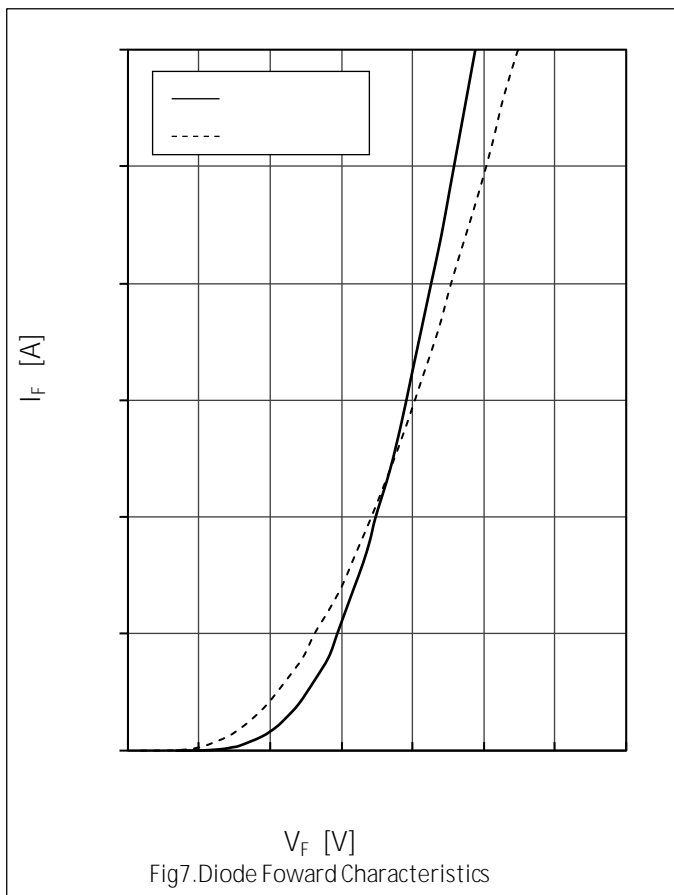
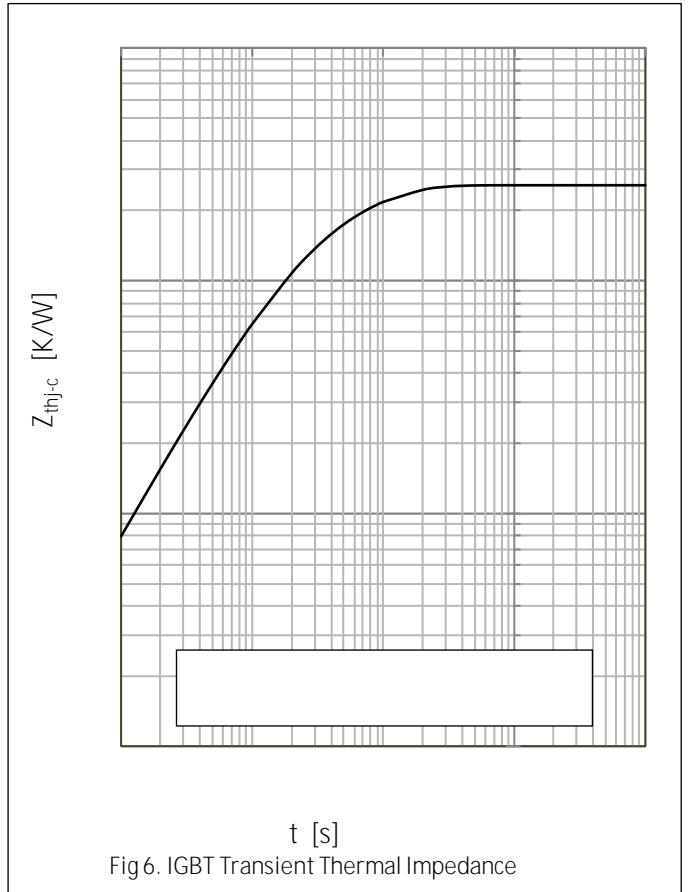
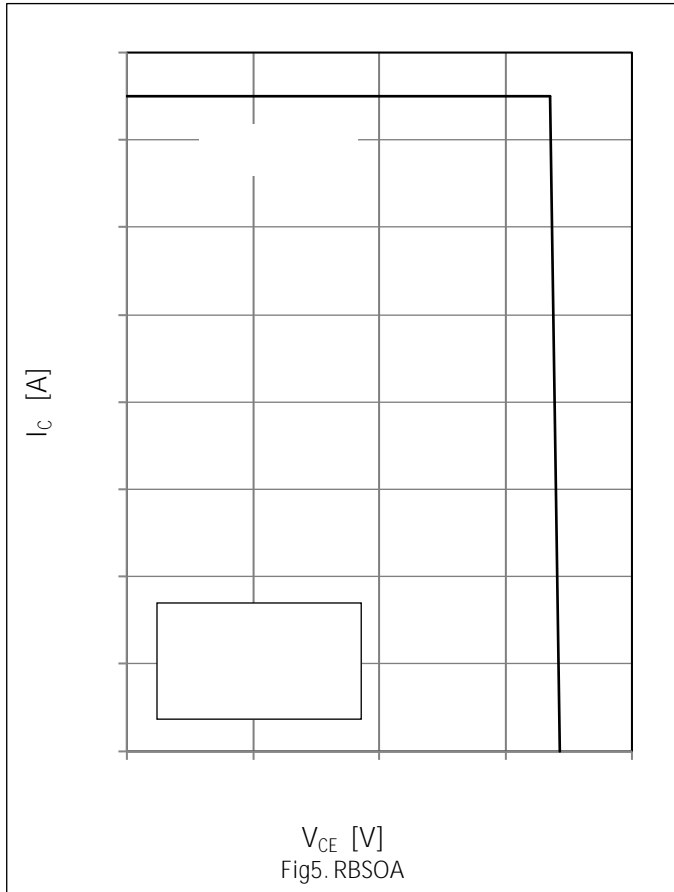


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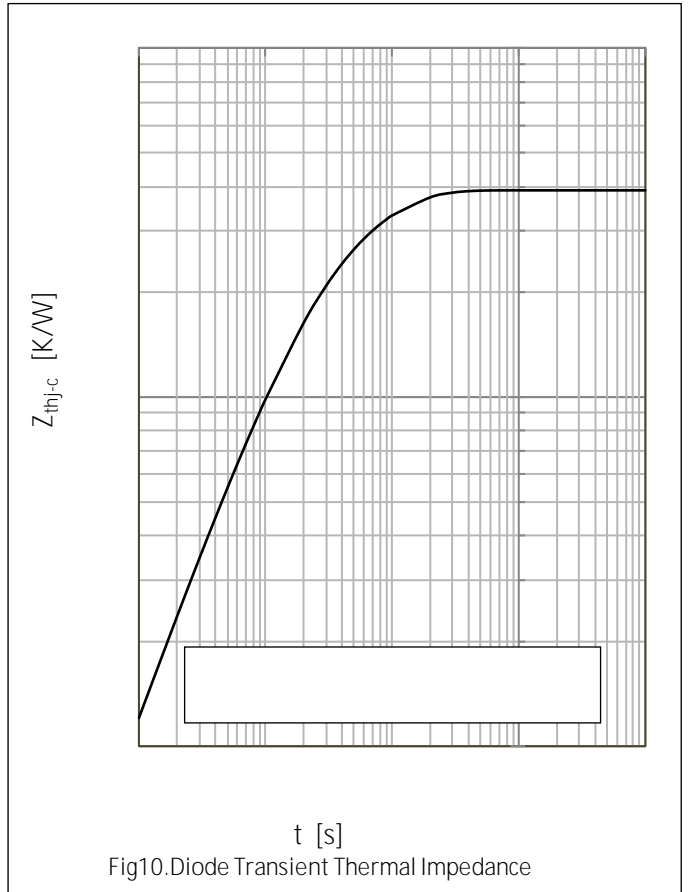
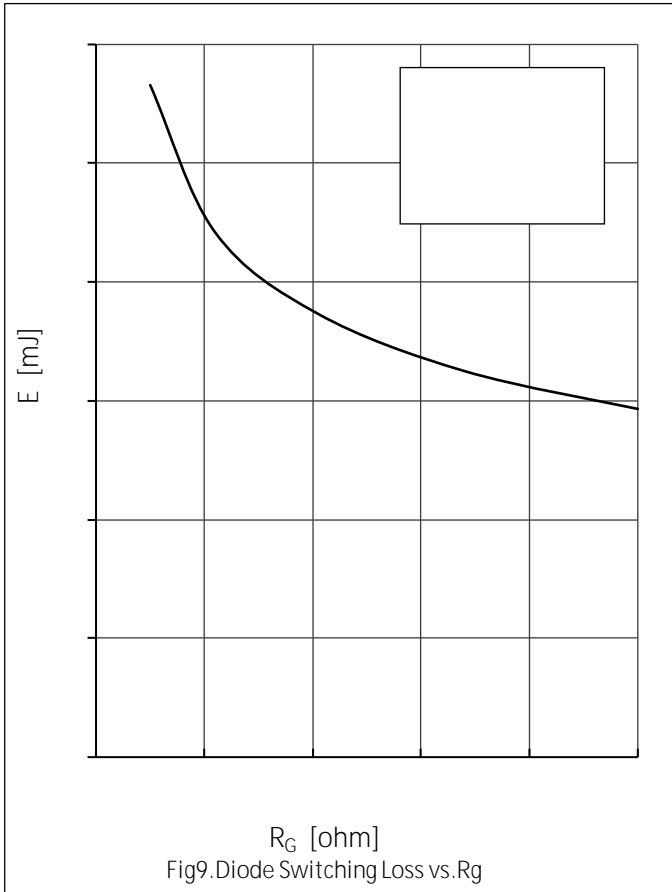


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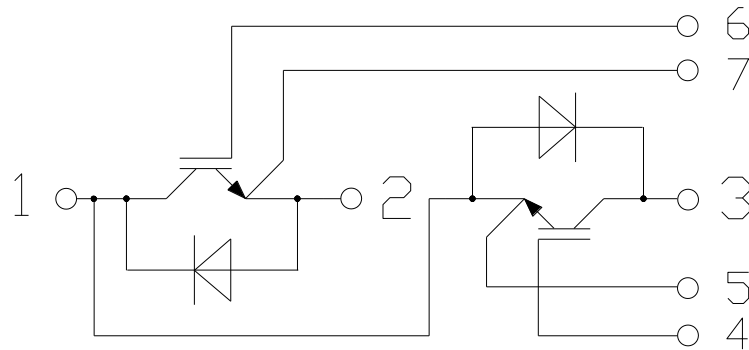
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## ● Circuit Diagram



## ● Package Outline Information

Dimensions in Millimeters

