

# MG150HF12TLC1



## IGBT Modules

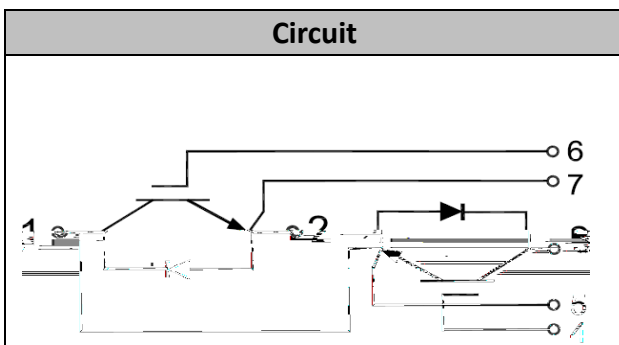
V <sub>CES</sub>	1200V
I <sub>C</sub>	150A

## Applications

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

## Features

- Low V<sub>ce(sat)</sub> with Trench technology
- V<sub>ce(sat)</sub> with positive temperature coefficient
- High short circuit capability(10us)
- Including ultra fast & soft recovery anti-parallel FWD
- Low inductance
- Maximum junction temperature 175°C



## ● IGBT

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Collector-Emitter Voltage	V <sub>CES</sub>	V <sub>GE</sub> =0V, I <sub>C</sub> =1mA, T <sub>vj</sub> =25°C	1200	V
Continuous Collector Current	I <sub>C</sub>	T <sub>c</sub> =100°C	150	A
Repetitive Peak Collector Current	I <sub>CRM</sub>	t <sub>p</sub> =1ms	300	A
Gate-Emitter Voltage	V <sub>GES</sub>	T <sub>vj</sub> =25°C	±20	V
Total Power Dissipation	P <sub>tot</sub>	T <sub>c</sub> =25°C T <sub>vjmax</sub> =175°C	968	W



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Characteristic values

Parameter	Symbol	Conditions	Value		Unit
			Min.	T	



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## ● Diode

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
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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	$^{\circ}\text{C}$
Operating Junction Temperature	$T_{\text{vjop}}$		-40		150	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$		-40		125	$^{\circ}\text{C}$
Thermal Resistance Junction-to Case	$R_{\theta\text{JC}}$	per IGBT			0.155	K/W
		per Diode			0.29	
Thermal Resistance Case-to Sink	$R_{\theta\text{CS}}$	Conductive grease applied		0.05		K/W
Module Electrodes Torque	$M_t$	Recommended(M5)	2.5		5.0	N·m
Module-to-Sink Torque	$M_s$	Recommended(M6)	3.0		5.0	N·m
Weight of Module	G			150		g

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—  $T_{vj}=25^{\circ}\text{C}$   
.....  $T_{vj}=125^{\circ}\text{C}$

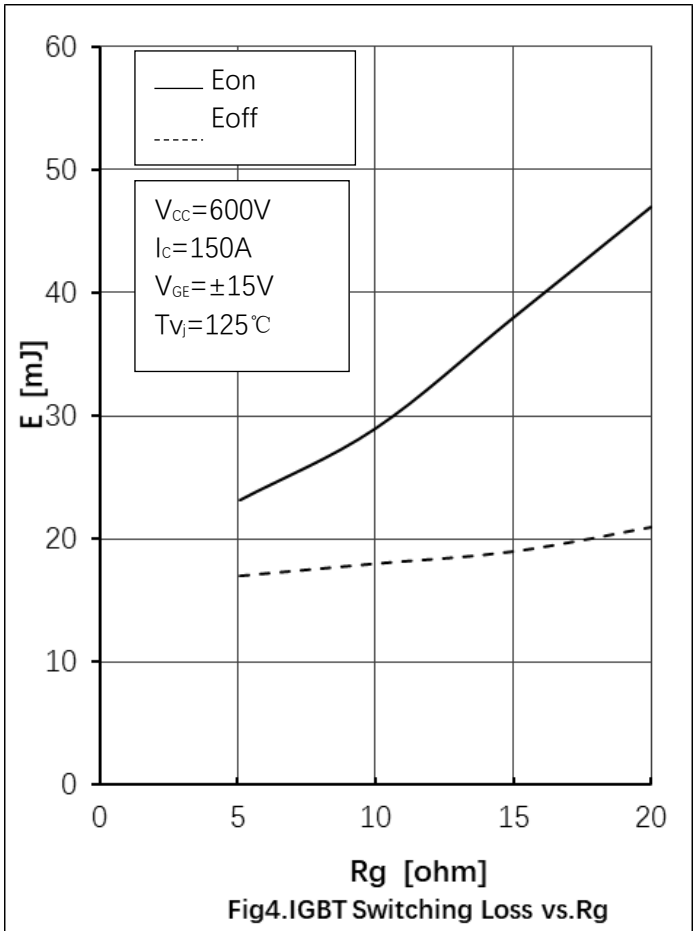
$V_{GE}=15\text{V}$

—  $T_{vj}=25^{\circ}\text{C}$   
.....  $T_{vj}=125^{\circ}\text{C}$

$V = 75\text{V}$

—  $E_{on}$   
.....  $E_{off}$

$V_{CC}=600\text{V}$   
 $R_G=5.1\text{ohm}$   
 $V_{GE}=\pm 15\text{V}$   
 $T_{vj}=125^{\circ}\text{C}$





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I<sub>c</sub>, Module

	6	7	8	9
	5 5656	5 5003	5 5095	5 5945
τ	5 56	5 57	5 50	5 6

——T<sub>vj</sub>=25°C  
-----T<sub>vj</sub>=125°C

V<sub>cc</sub>=600V  
R<sub>G</sub>=5.1ohm  
V<sub>GE</sub>=±15V  
T<sub>vj</sub>=125°C



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$V_{CC}=600V$   
 $I_F=150A$   
 $V_{GE}=\pm 15V$   
 $T_{Vj}=125^{\circ}C$

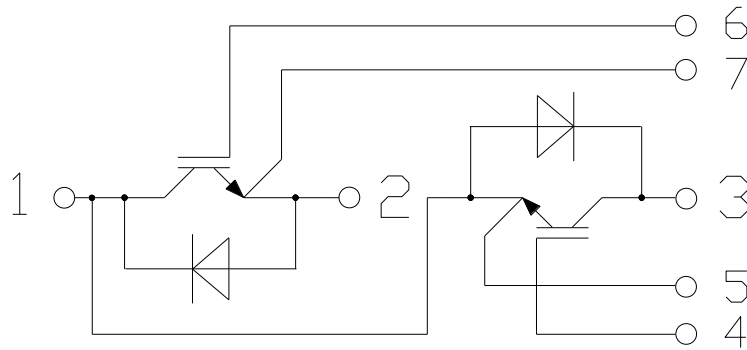
	6	7	8	9
	5 5620	5 5419	5 5489	5 5392
$\tau$	5 56	5 57	5 50	5 6



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## ● Circuit Diagram



## ● Package Outline Information

Dimensions in Millimeters

