



## IGBT Modules

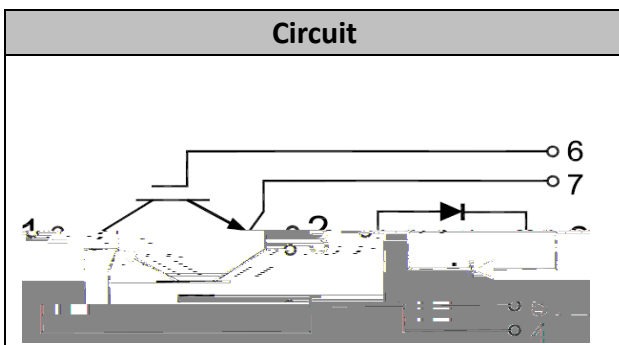
<b>V<sub>CES</sub></b>	1200V
<b>I<sub>C</sub></b>	150A

## 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

# MG150HF12TLC1

## Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Gate-emitter Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=5mA, T_{vj}=25^{\circ}C$	5.0	5.7	6.5	V
Collector-Emitter Cut-off Current	$I_{CES}$	$V_{CE}=1200V, V_{GE}=0V, T_{vj}=25$			1.0	mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=150A, V_{GE}=15V, T_{vj}=25^{\circ}C$		1.90	2.20	V
		$I_C=150A, V_{GE}=15V, T_{vj}=125^{\circ}C$		2.20		
Input Capacitance	$C_{ies}$	$V_{CE}=25V, V_{GE}=0V,$		9.8		nF
Reverse Transfer Capacitance	$C_{res}$	$f=1MHz, T_{vj}=25$		0.48		nF

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# MG150HF12TLC1

## ● Diode

### Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	$T_{vj}=25^{\circ}C$	1200	V
Continuous DC Forward Current	$I_F$		150	A

Repetitive Peak Forward Curren02 647.739990 Tm0 g0 Gp0 G(Repetitive Peak )10(Fo Tm0 g0 G(Dio)-3(d)-2(e))TJETQEMC/P A/CID 8/L



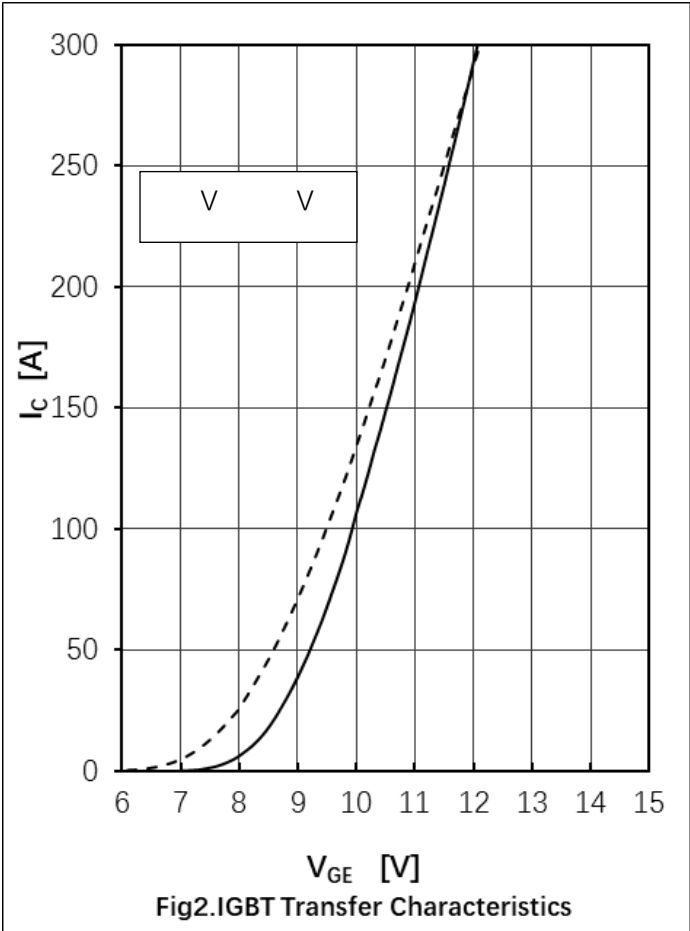
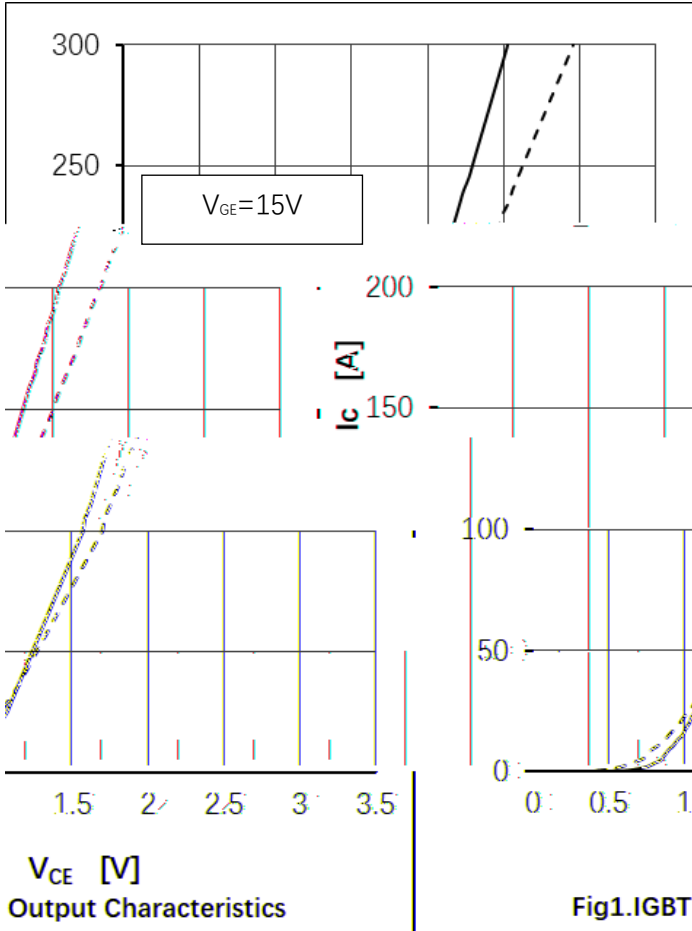
# MG150HF12TLC1

## ● Module Characteristics

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

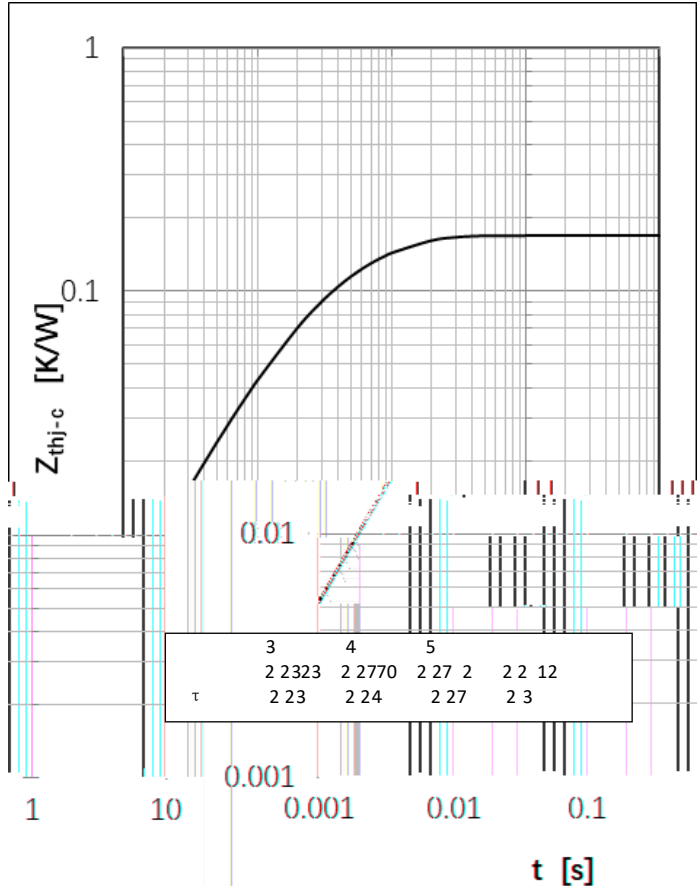
Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Isolation voltage	$V_{\text{isol}}$	$t=1\text{min}, f=50\text{Hz}$	2500			V
Maximum Junction Temperature	$T_{\text{jmax}}$				175	$^{\circ}\text{C}$

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Ic, Module



Impedance

Fig 6. IGBT Transient Thermal Impedance

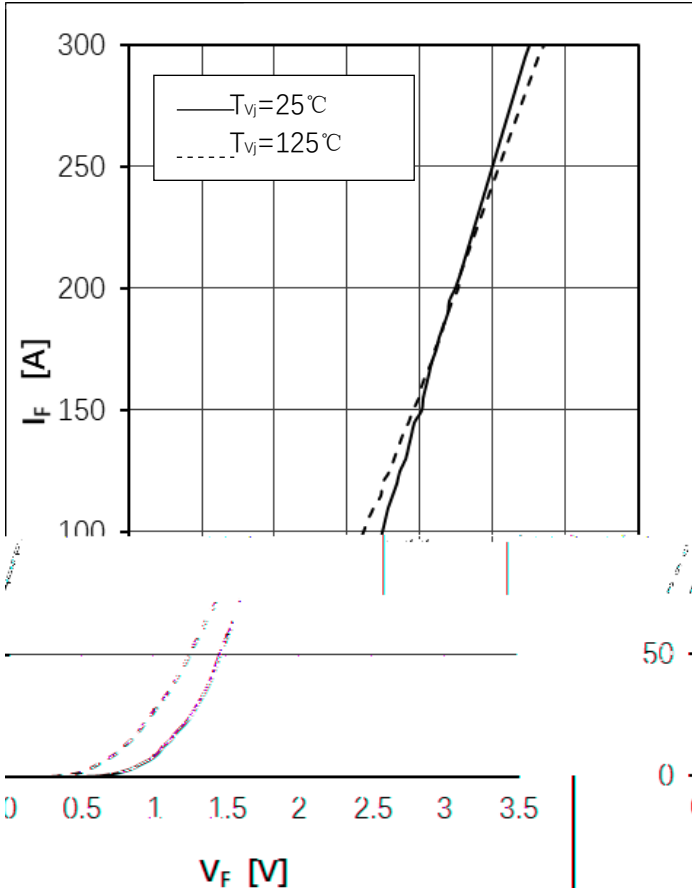


Fig7. Diode Forward Characteristics

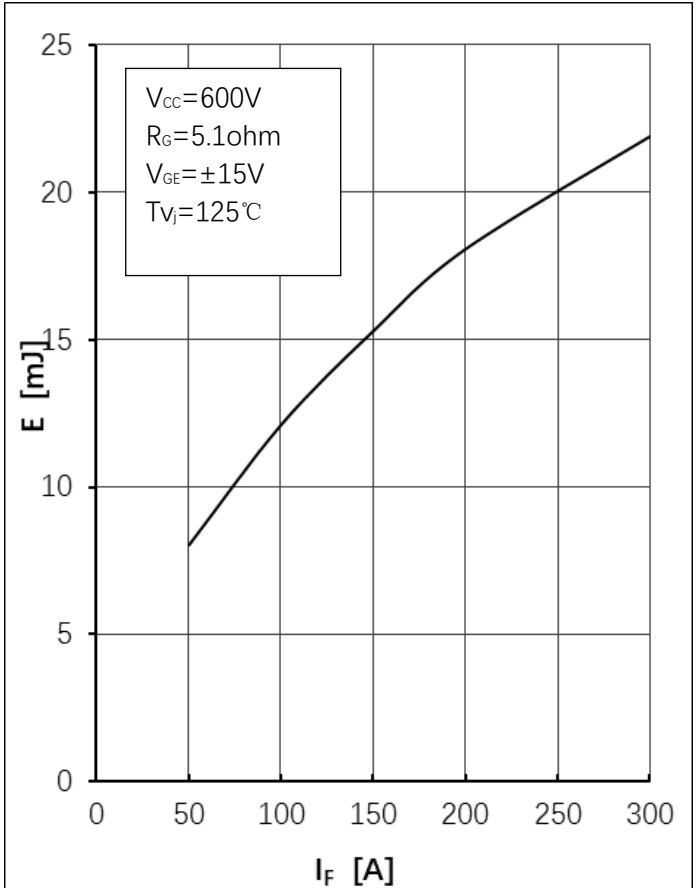
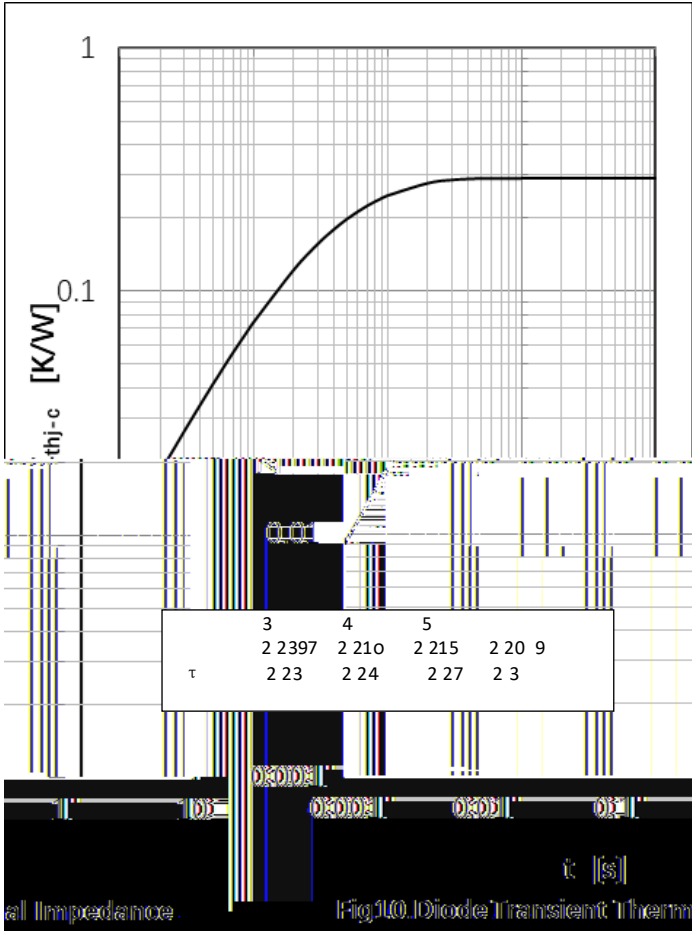
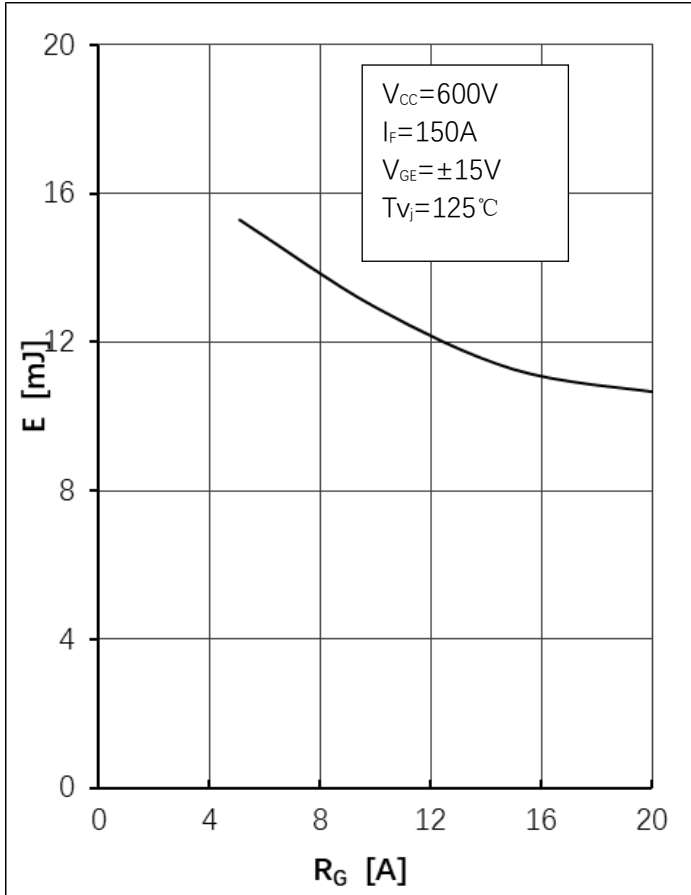


Fig8. Diode Switching Loss(Erec) vs. IF

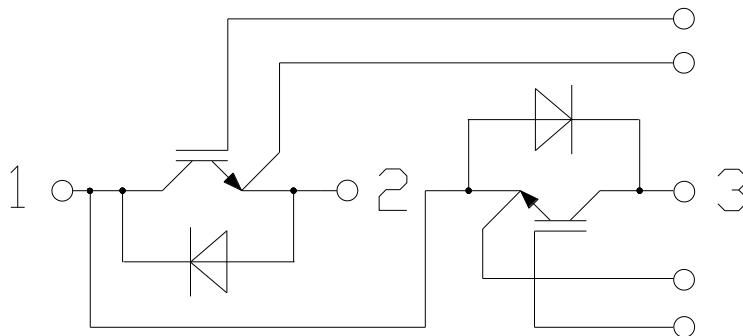
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# MG150HF12TLC1

## ● Circuit Diagram



## ● Package Outline Information

Dimensions in Millimeters

