



MG150HF12TLC1 □



IGBT Modules

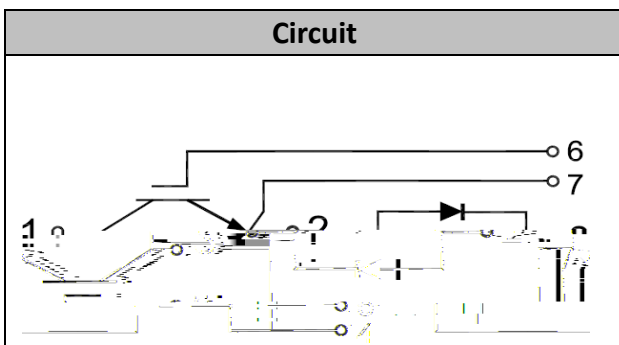
V _{CES}	1200V
I _C	150A

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°C



● IGBT

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Collector-Emitter Voltage	V _{CES}	V _{GE} =0V, I _C =1mA, T _{vj} =25°C	1200	V
Continuous Collector Current	I _C	T _c =100°C	150	A
Repetitive Peak Collector Current	I _{CRM}	t _p =1ms	300	A
Gate-Emitter Voltage	V _{GES}	T _{vj} =25°C	±20	V
Total Power Dissipation	P _{tot}	T _c =25°C T _{vjmax} =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 Q 1 W* n 10.56 Tf /P <<(en-US)>> BDC q 496.42 690550 9905.73 690.82 49

Parameter	Symbol	Conditions	Value	Unit
150			150	g
12			12	Lan11
1			1	EMC



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● Module Characteristics

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

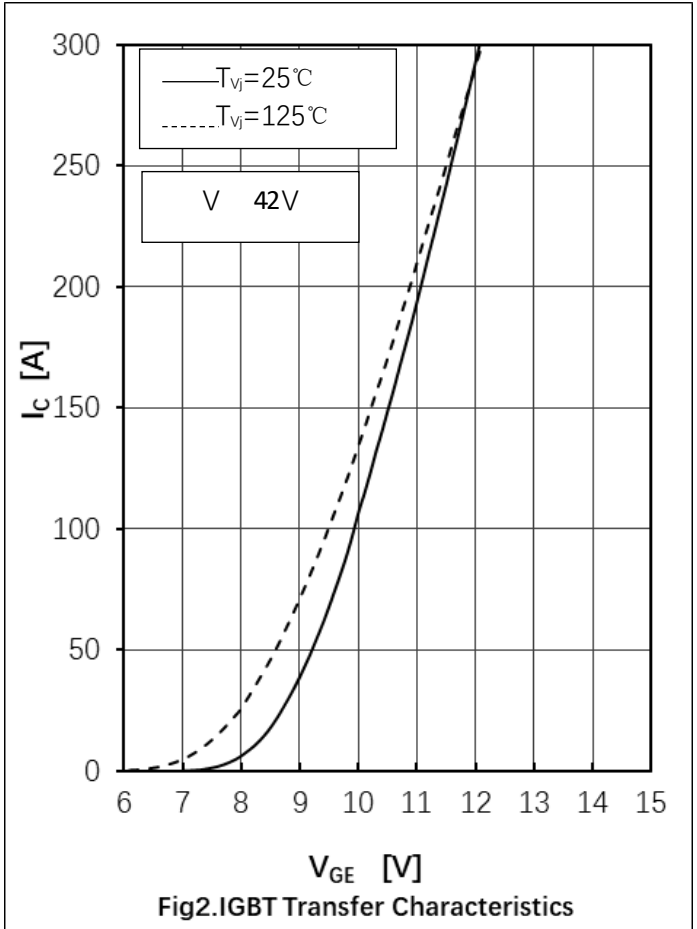
Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Isolation voltage	V_{isol}	$t=1\text{min}, f=50\text{Hz}$	2500			V
Maximum Junction Temperature	T_{jmax}				175	$^{\circ}\text{C}$
Operating Junction Temperature	T_{vjop}		-40		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-40		125	$^{\circ}\text{C}$
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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— $T_{vj}=25^{\circ}\text{C}$
- - - $T_{vj}=125^{\circ}\text{C}$

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



— E_{on}
- - - E_{off}

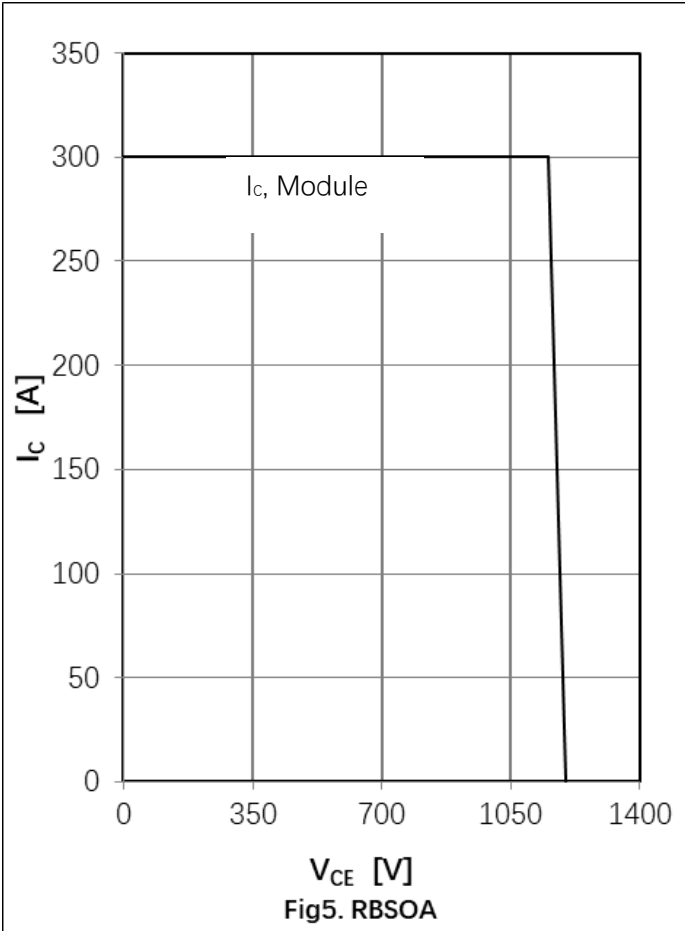
$V_{CC}=600\text{V}$
 $R_G=5.1\text{ohm}$
 $V_{GE}=\pm 15\text{V}$
 $T_{vj}=125^{\circ}\text{C}$

— E_{on}
- - - E_{off}

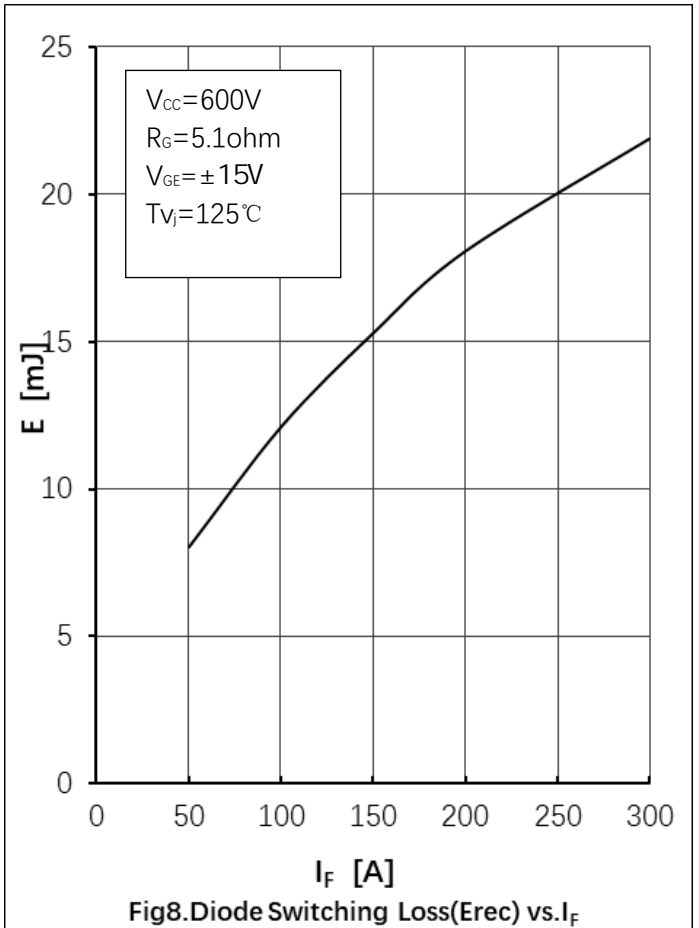
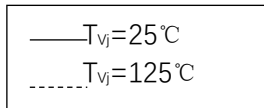
$V_{CC}=600\text{V}$
 $I_c=150\text{A}$
 $V_{GE}=\pm 15\text{V}$
 $T_{vj}=125^{\circ}\text{C}$



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	3	4	5	
	2 2323	2 2770	2 27 2	2 2 12
τ	2 23	2 24	2 27	2 3



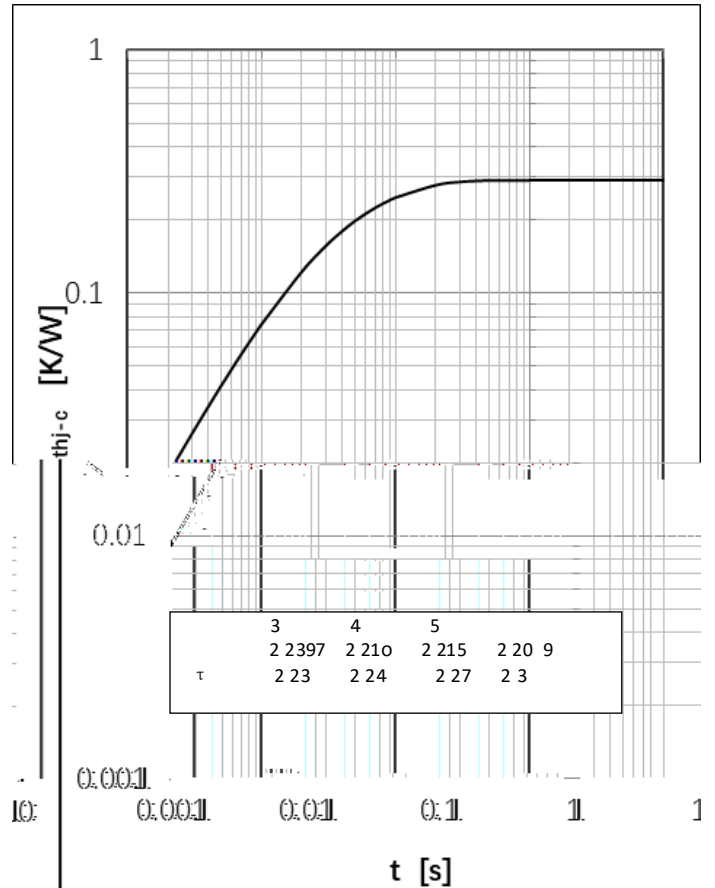
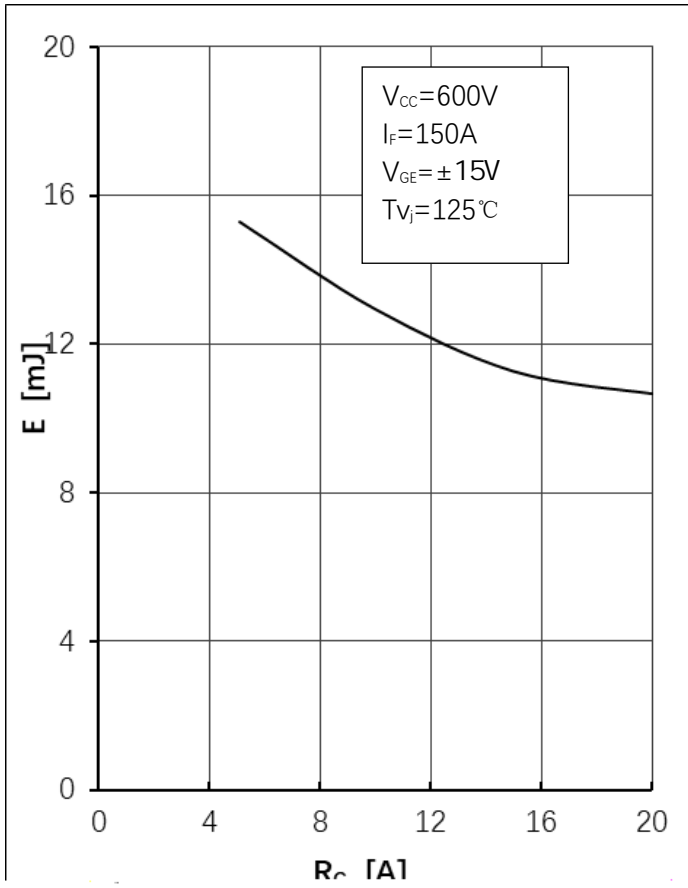
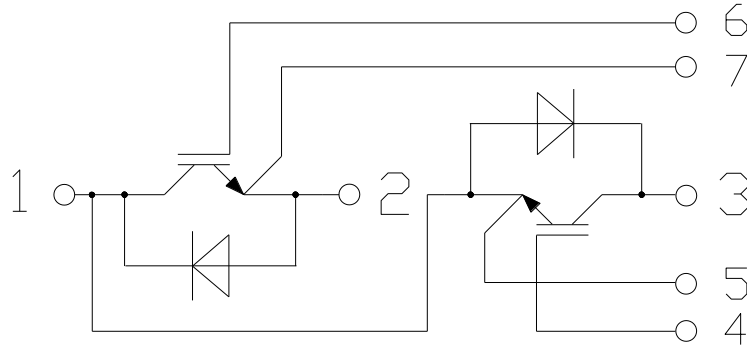


Fig10:Diode-Transient-Thermal Impedance



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● Circuit Diagram



● Package Outline Information

Dimensions in Millimeters

