IGBT Modules

VCES	1200V
IC	150A

Applications

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

Circuit

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℃	150	A
Repetitive Peak Collector Current	I_{CRM}	tp=1ms	300	A
Gate-Emitter Voltage	V_{GES}	T_{vj}=25℃	±20	V
Total Power Dissipation	P_{tot}	T_c=25℃ T_{vjmax}=175℃	968	W

Characteristic values

Parameter	Symbol	Conditions	Value		Unit
			Min.	T	

Diode

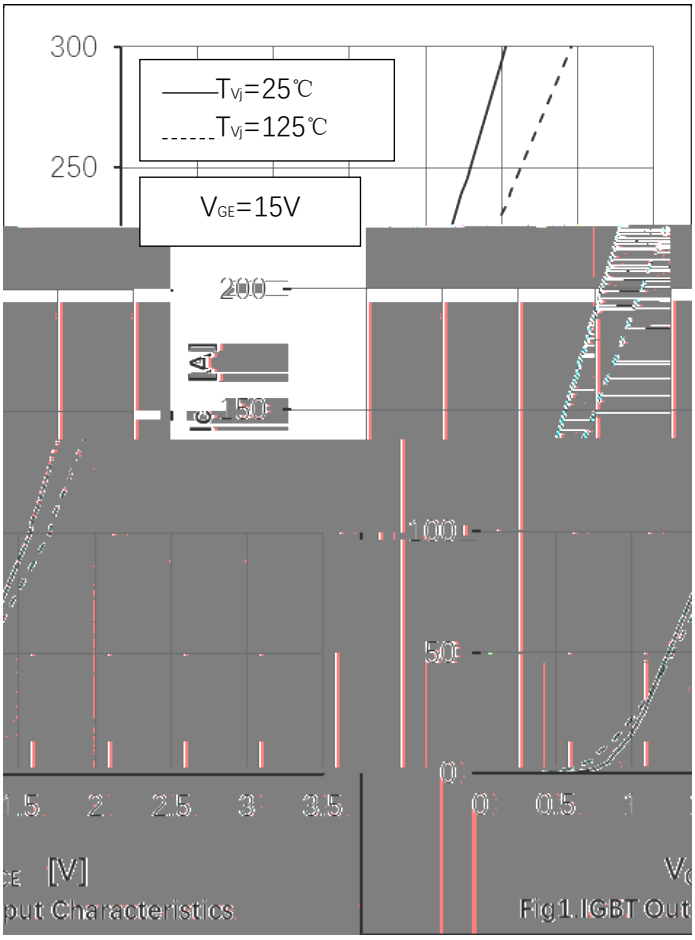
Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit

Module Characteristics

T_C=25°C unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Isolation voltage	V_{isol}	t=1min,f=50Hz	2500			V
Maximum Junction Temperature	T_{jmax}				175	℃
Operating Junction Temperature	$T_{vj\ op}$		-40		150	℃
Storage Temperature	T_{stg}		-40		125	℃
Thermal Resistance Junction-to Case	$R_{\theta JC}$	per IGBT			0.155	K/W
		per Diode			0.29	
Thermal Resistance Case-to Sink	$R_{\theta CS}$	Conductive grease applied		0.05		K/W
Module ElectrodesTorque	M_t	Recommended(M5)	2.5		5.0	N·m
Module-to-SinkTorque	M_s	Recommended(M6)	3.0		5.0	N·m
Weight of Module	G			150		g



——T_{vj}=25℃
------T_{vj}=125℃

V 31V

—— Eon
------ Eoff

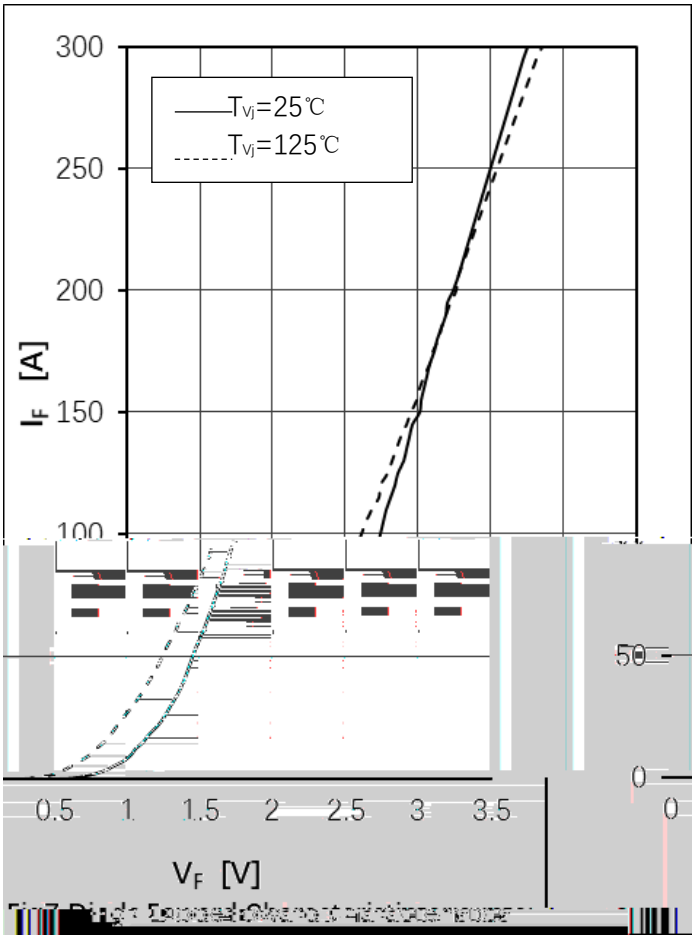
V_{CC}=600V
R_G=5.1ohm
V_{GE}=±15V
T_{vj}=125℃

—— Eon
------ Eoff

V_{CC}=600V
I_C=150A
V_{GE}=±15V
T_{vj}=125℃

I_C, Module

	2	3	4	5
	1 1212	1 1 9	1 1 51	1 1501
τ	1 12	1 13	1 1	1 2



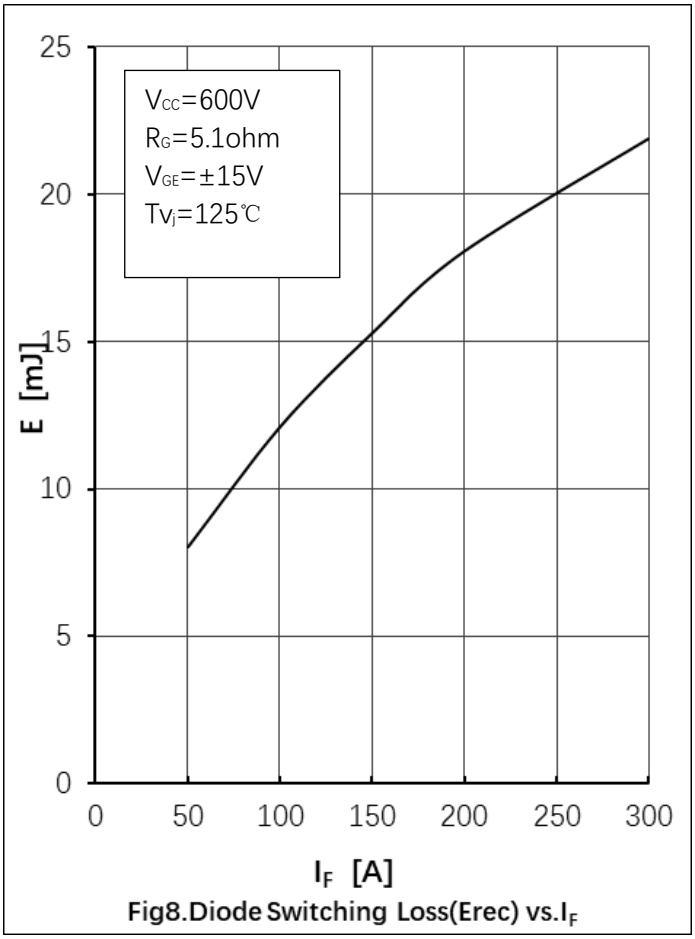
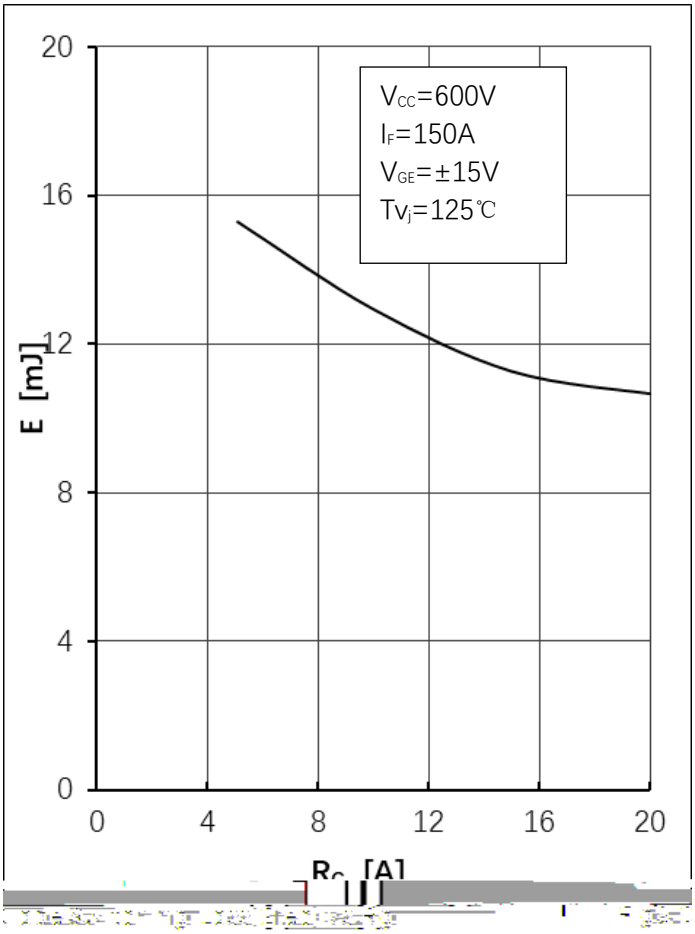
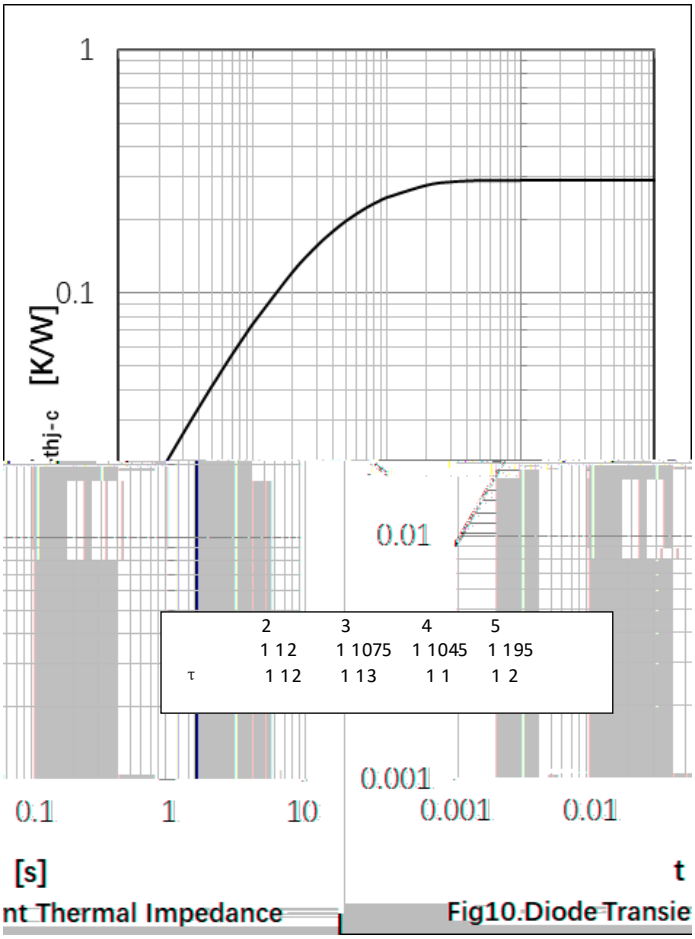


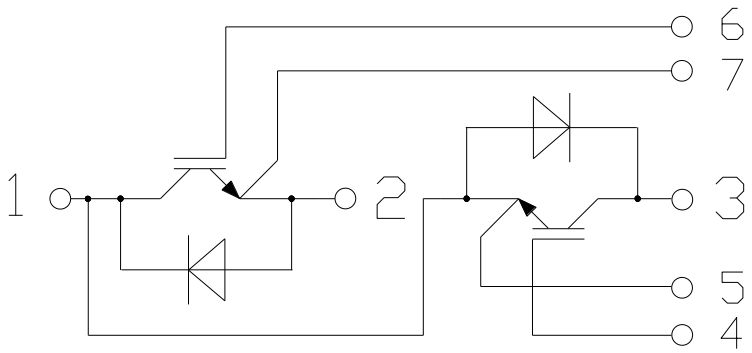
Fig8.Diode Switching Loss(Erec) vs.I_F





nt Thermal Impedance Fig10.Diode Transie

- **Circuit Diagram**



- **Package Outline Information**

Dimensions in Millimeters