IGBT Modules

V_{CES} 1200V
I_C 600A

Applications

Motion/servo control
High frequency switching application
UPS (Uninterruptible Power Supplies)
Welding machine

Circuit

Features

Low $V_{CE(sat)}$ with Trench technology
Low switching losses especially Eoff
$V_{CE(sat)}$ with positive temperature coefficient
High short circuit capability(10us)
Including ultra fast & soft recovery anti-parallel FWD
Low inductance package
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

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		600	A
Repetitive Peak Forward Current	I_{FRM}	t_p=1ms	1200	A
I^2t-value	I^2t	V_R=0V,t_p=10ms,T_{vj}=125	35000	A^2s
		V_R=0V,t_p=10ms,T_{vj}=150	32000	

Characteristic Values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=600A,T_{vj}=25		1.55	2.10	V
		I_F=600A,T_{vj}=125		1.46		
		I_F=600A,T_{vj}=150		1.41		
Recovered Charge	Q_{rr}	I_F=600A V_R=600V -di_F/dt=5700A/us T_{vj}=25		68.9		uC
Peak Reverse Recovery Current	I_{rr}			296		A
Reverse Recovery Energy	E_{rec}			18.5		mJ
Recovered Charge	Q_{rr}	I_F=600A V_R=600V -di_F/dt=5700A/us T_{vj}=150		136.1		uC
Peak Reverse Recovery Current	I_{rr}			343		A
Reverse Recovery Energy	E_{rec}			39.8		mJ

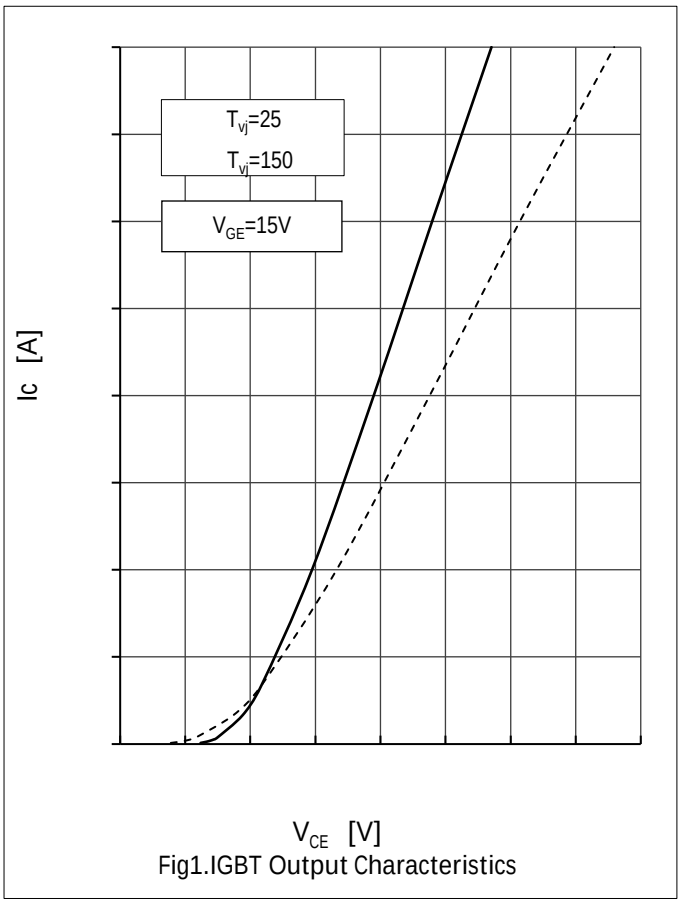
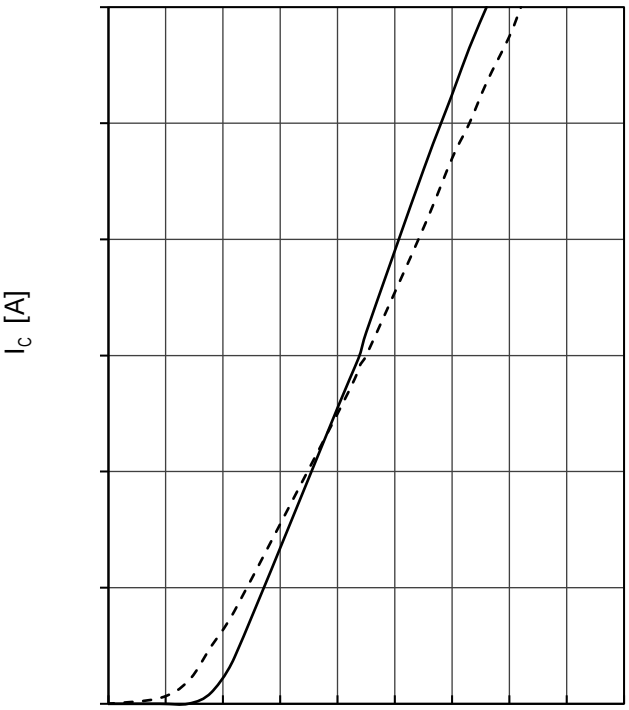


Fig1.IGBT Output Characteristics



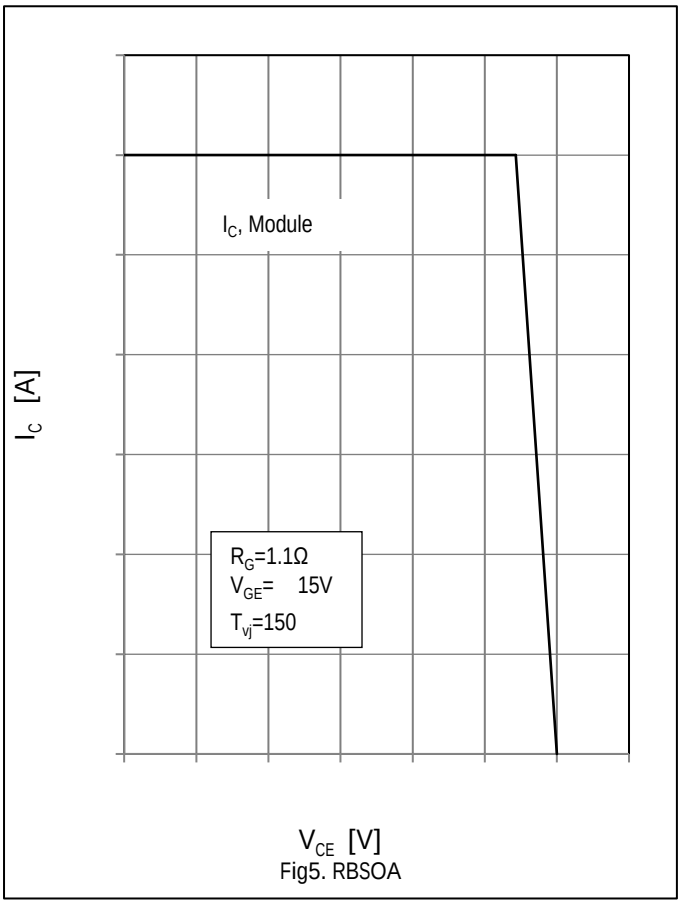


Fig5. RBSOA