

Features

- Low Switching Losses
- $V_{ce(sat)}$ with positive temperature coefficient
- Low Inductance
- Isolated copper baseplate using DBC technology
- Maximum Junction Temperature 175°C
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Applications

- AC and DC motor control
- PFC
- SMPS
- Brake switch

Parameter		Symbol	Rating	Unit
Collector-Emitter Voltage@V _{GE} =0V,I _C =1mA, T _{vj} =25°C		V _{CES}	1200	V
Continuous Collector Current @T _C =80°C		I _C	100	A
Repetitive Peak Collector Current @Tp=1ms		I _{CRM}	200	A
Gate-Emitter Voltage@T _{vj} =25°C		V _{GE}	±20	V
Isolation Voltage @f=50Hz, t=1min		V _{isol}	2500(Min)	V
Weight of Module		G	35	g
Module Electrodes Torque:M4		M _t	0.7~1.5	N*m
Module-to-Sink Torque :M4		M _S	0.7~1.5	N*m
Total Power Dissipation (IGBT-Inverter)	T _C =25°C	P _{tot}	535	W
	T _{vjmax} =175°C			

Note:

1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

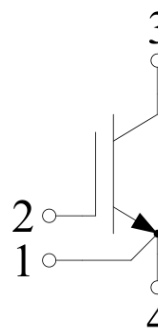
IGBT Modules

1200V 100A

GJ



Circuit Diagram



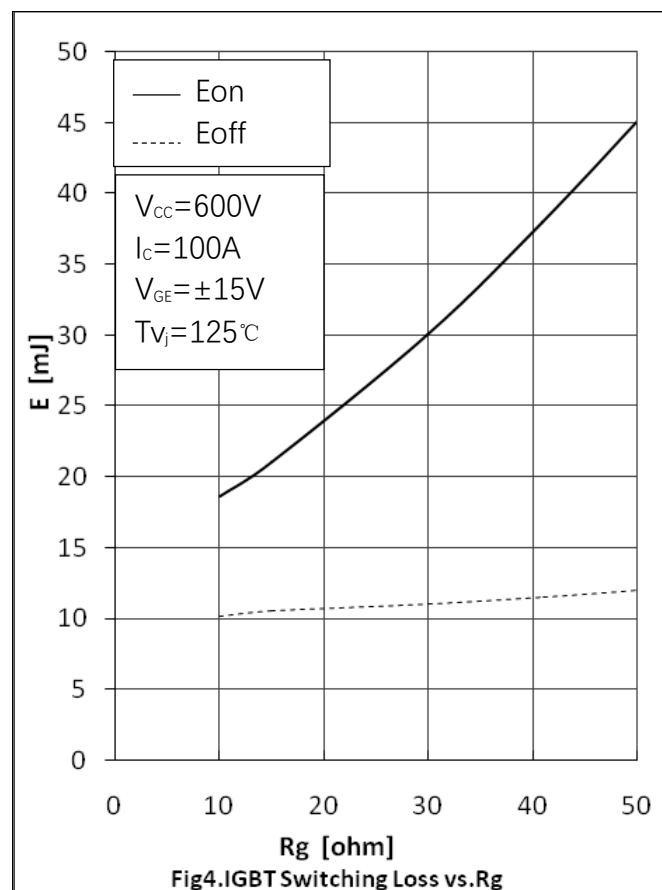
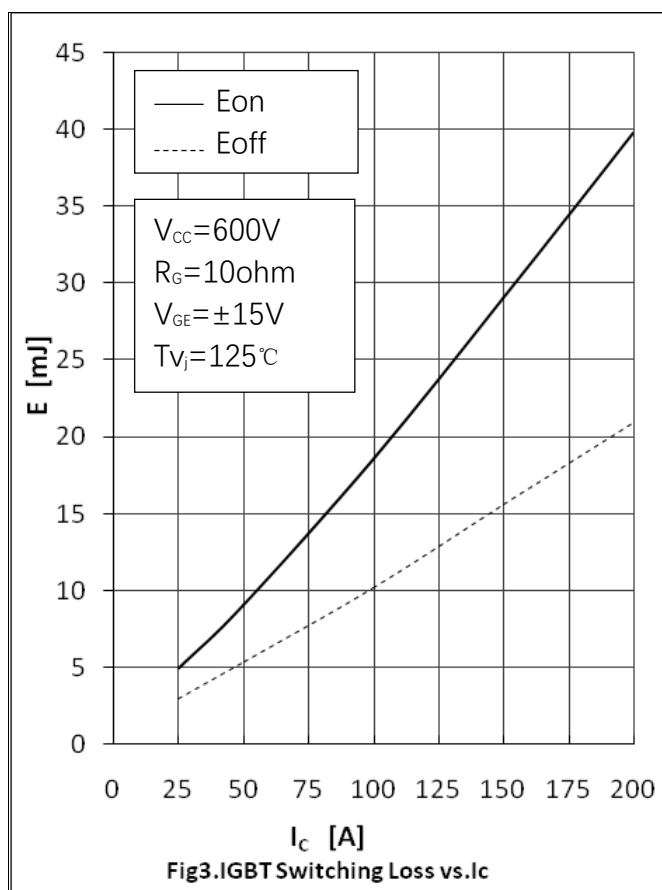
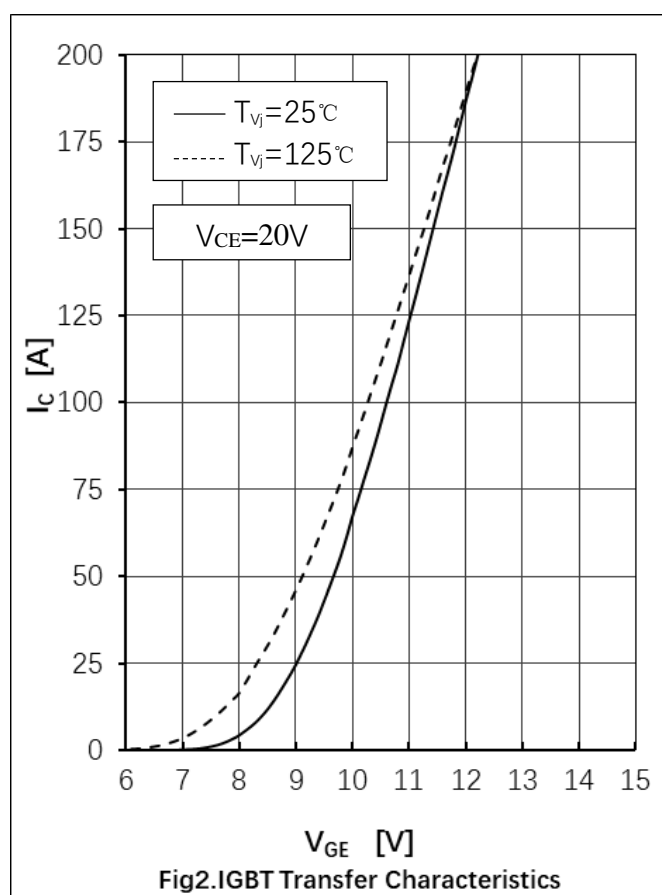
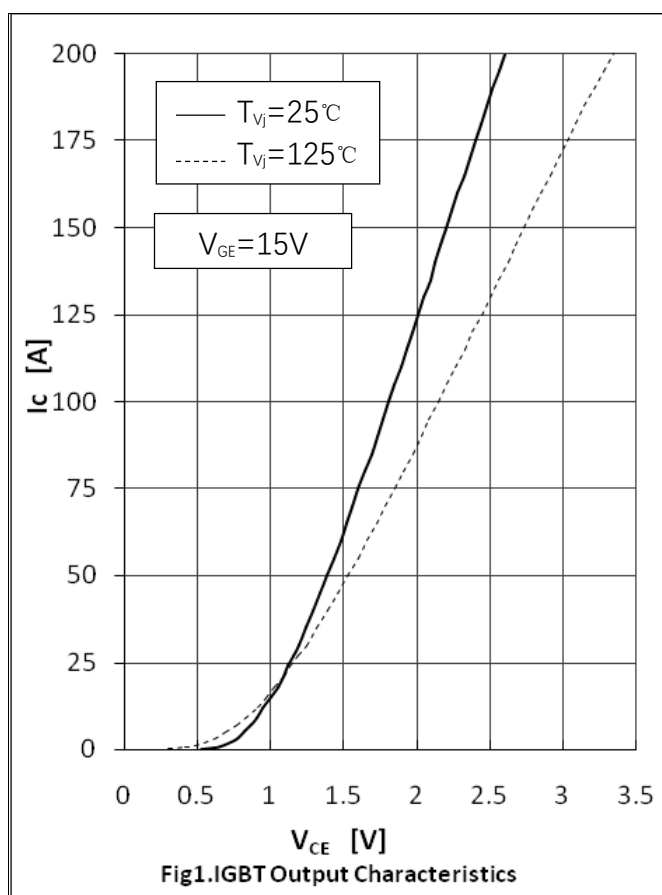
Electrical Characteristics of IGBT @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate-emitter Threshold Voltage	$V_{GE(th)}$	$I_C=4mA, V_{CE}=V_{GE}, T_{vj}=25^{\circ}C$	5.0	5.8	6.5	V
Collector-Emitter Cut-off Current	I_{CES}	$V_{CE}=1200V, V_{GE}=0V, T_{vj}=25^{\circ}C$			1.0	mA
		$V_{CE}=1200V, V_{GE}=0V, T_{vj}=125^{\circ}C$			5.0	mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100A, V_{GE}=15V, T_{vj}=25^{\circ}C$		1.75	2.25	V
		$I_C=100A, V_{GE}=15V, T_{vj}=125^{\circ}C$		2.15		
		$I_C=100A, V_{GE}=15V, T_{vj}=150^{\circ}C$		2.20		
Input Capacitance	C_{ies}	$V_{CE}=25V, V_{GE}=0V, f=1MHz, T_{vj}=25^{\circ}C$		5.80		nF
Output Capacitance	C_{oes}			0.54		
Reverse Transfer Capacitance	C_{res}			0.35		
Internal Gate Resistance	R_{gint}			2.5		Ω
Turn-On Delay Time	$td_{(on)}$	$V_{CE}=600V, I_C=100A, V_{GE}=\pm 15V, R_G=10\Omega, T_{vj}=25^{\circ}C$		122		ns
Rise Time	t_r			50		
Turn-Off Delay Time	$td_{(off)}$			335		
Fall Time	t_f			72		
Turn-On Energy	E_{on}			13.5		mJ
Turn-Off Energy	E_{off}			7.0		
Turn-On Delay Time	$td_{(on)}$	$V_{CE}=600V, I_C=100A, V_{GE}=\pm 15V, R_G=10\Omega, T_{vj}=125^{\circ}C$		135		ns
Rise Time	t_r			55		
Turn-Off Delay Time	$td_{(off)}$			460		
Fall Time	t_f			76		
Turn-On Energy	E_{on}			18.6		mJ
Turn-Off Energy	E_{off}			10.2		
SC Data	I_{sc}	$t_p \leq 10\mu s, V_{GE}=15V, T_{vj}=150^{\circ}C, V_{cc}=600V, V_{CEM} \leq 1200V$		350		A

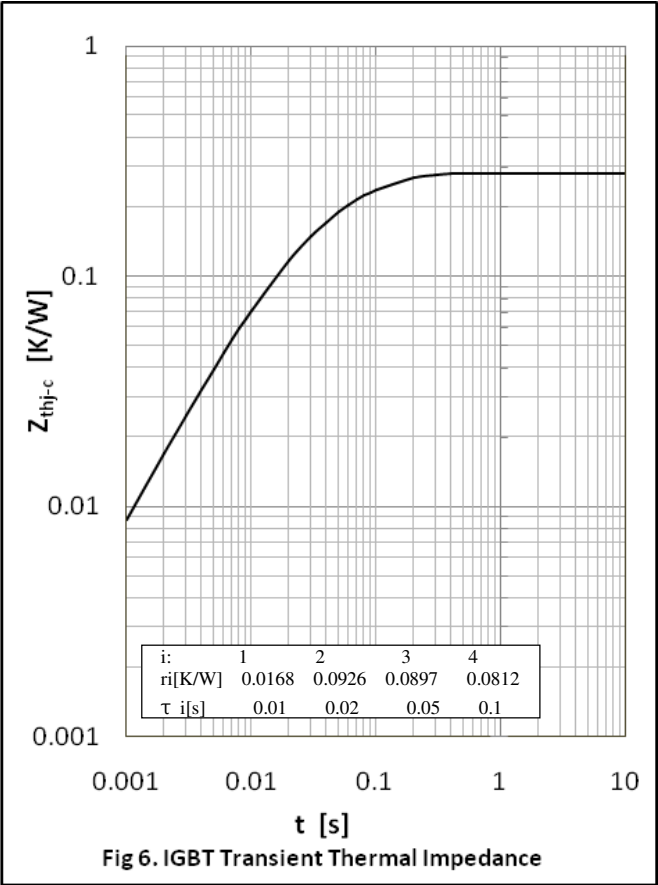
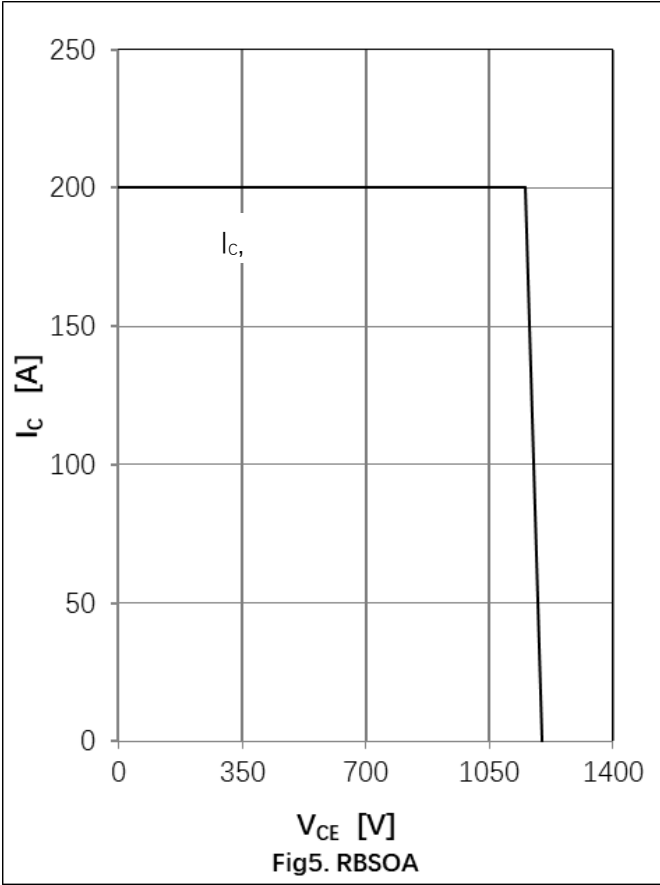
Module Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Isolation voltage	V_{isol}	$t=1\text{ min}, f=50\text{ Hz}$	2500			V
Maximum Junction Temperature	T_{jmax}				175	°C
Operating Junction Temperature	$T_{vj\text{ op}}$		-40		150	°C
Storage Temperature	T_{stg}		-40		125	°C
Thermal Resistance Junction to Case	$R_{\theta JC}$	per IGBT			0.28	K/W
Thermal Resistance Case-to Sink	$R_{\theta CS}$	Conductive grease applied		0.15		K/W

Curve Characteristics



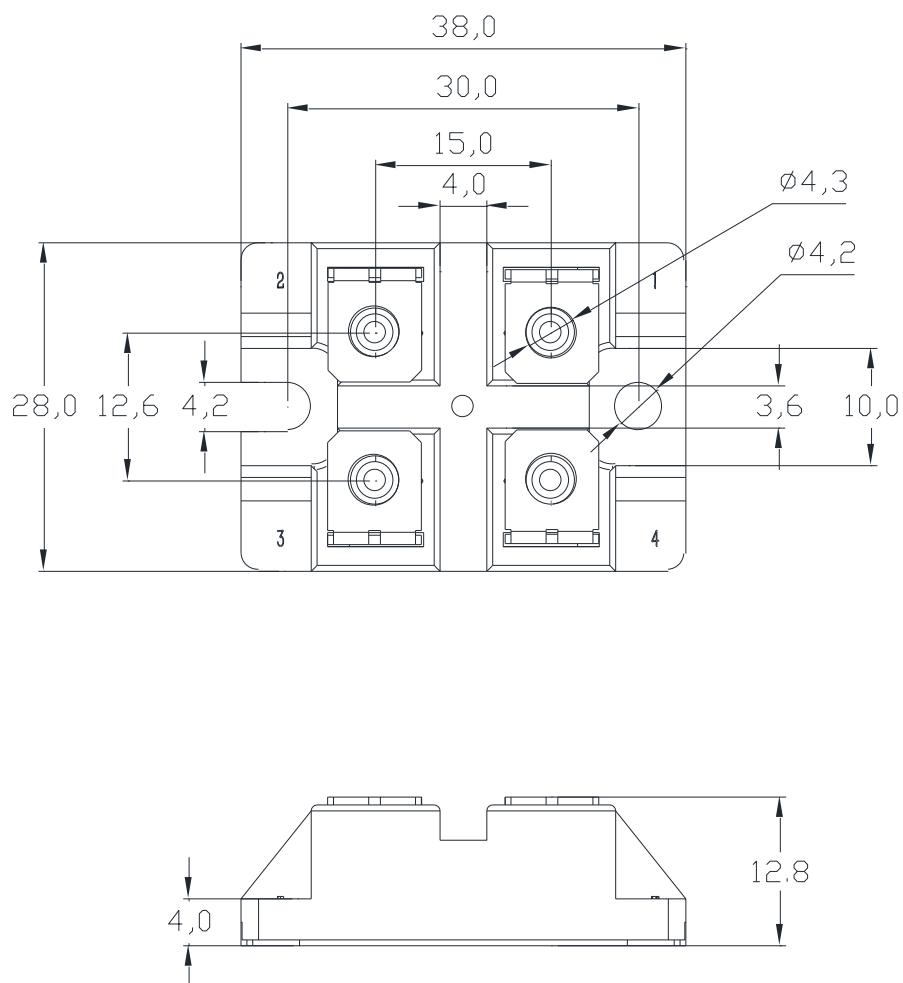
Curve Characteristics



Package Dimensions

GJ

Dimensions in mm



Ordering Information

Device	Packing
Part Number-BP	Bulk: 25pcs/Box ; 250pcs/Ctn

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