Electrical and Thermal Specifications (T_c = 25°C, unless otherwise specified)

Symbol	Parameters	Test Conditions		Min	Typ	Max	Unit
IGBT							
$V_{GE(th)}$	Gate - Emitter Threshold Voltage	$V_{CE}=V_{GE}$, I_C=1.6mA		4.9	5.8	6.5	V
$V_{CE(sat)}$	Collector - Emitter Saturation Voltage	I_C=100A, V_{GE}=15V, T_J=25°C			1.45	1.9	V
		I_C=100A, V_{GE}=15V, T_J=125°C			1.6		V
I_{CES}	Collector Leakage Current	V_{CE}=600V, V_{GE}=0V, T_J=25°C				1	mA
		V_{CE}=600V, V_{GE}=0V, T_J=125°C				5	mA
I_{GES}	Gate Leakage Current	V_{CE}=0V,V_{GE}=±15V, T_J=125°C		-400		400	nA
R_{Gint}	Integrated Gate Resistor				2		Ω
Q_{ge}	Gate Charge	V_{CC}=300V, I_C=100A , V_{GE}=±15V			1.1		μC
C_{ies}	Input Capacitance	V_{CE}=25V, V_{GE}=0V, f =1MHz			6.2		nF
C_{res}	Reverse Transfer Capacitance				0.19		nF
$t_{d(on)}$	Turn - on Delay Time	V_{CC}=300V I_C=100A R_G =3.3Ω V_{GE}=±15V Inductive Load	T_J =25°C		70		ns
			T_J =125°C		80		ns
t_r	Rise Time		T_J =25°C		20		ns
			T_J =125°C		20		ns
$t_{d(off)}$	Turn - off Delay Time		T_J =25°C		260		ns
			T_J =125°C		290		ns
t_f	Fall Time		T_J =25°C		70		ns
			T_J =125°C		70		ns
E_{on}	Turn - on Energy		T_J =25°C		0.3		mJ
			T_J =125°C		0.7		mJ
E_{off}	Turn - off Energy		T_J =25°C		2.5		mJ
			T_J =125°C		3.35		mJ
I_{SC}	Short Circuit Current	t_{psc}≤6μS , V_{GE}=15V; T_J=125°C,V_{CC}=360V			500		A
R_{thJC}	Junction-to-Case Thermal Resistance **(Per IGBT)**					0.45	K/W
Diode							
V_F	Forward Voltage	I_F=100A , V_{GE}=0V, T_J =25°C			1.55	1.95	V
		I_F=100A , V_{GE}=0V, T_J =125°C			1.50		V
I_{RRM}	Max. Reverse Recovery Current	I_F=100A , V_R=300V di_F/dt=-5100A/μs T_J =125°C			150		A
Q_{rr}	Reverse Recovery Charge				8.0		μC
E_{rec}	Reverse Recovery Energy				2.25		mJ
R_{thJC}	Junction-to-Case Thermal Resistance **(Per Diode)**					0.75	K/W

Figure 1: Typical Output Characteristics

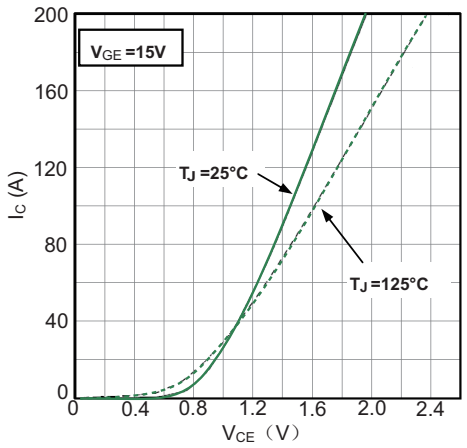


Figure 2: Typical Output characteristics

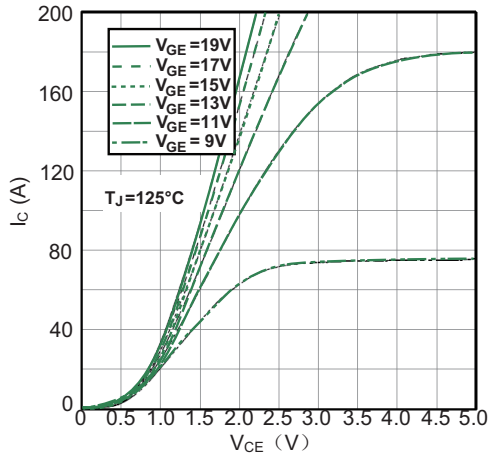


Figure 3: Typical Transfer characteristics

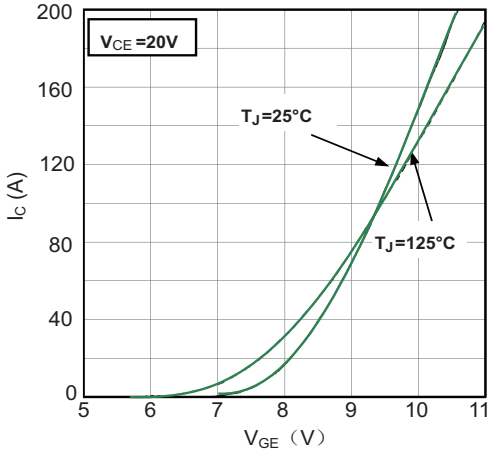


Figure 4: Switching Energy vs. Gate Resistor

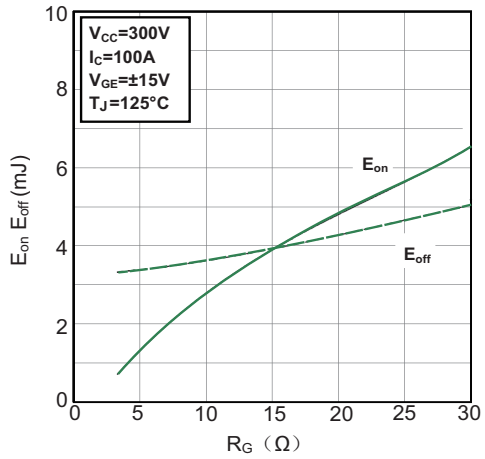


Figure 5: Switching Energy vs. Collector Current

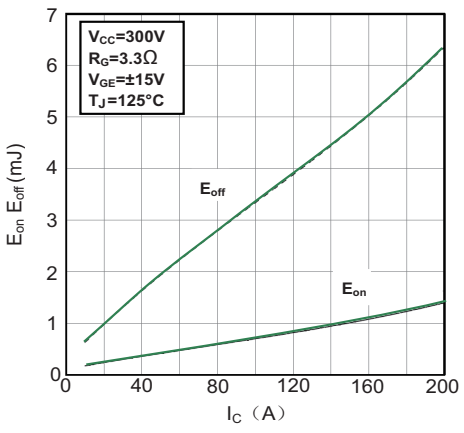


Figure 6: Reverse Biased Safe Operating Area

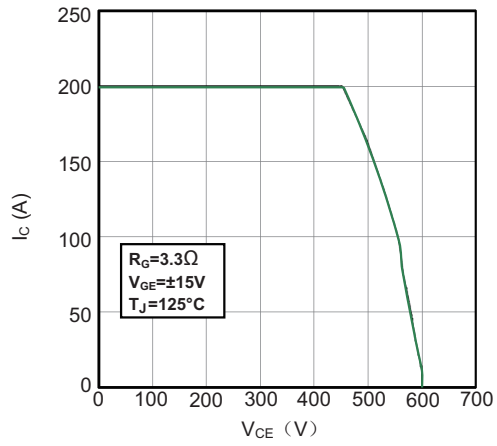


Figure 7: Diode Forward Characteristics

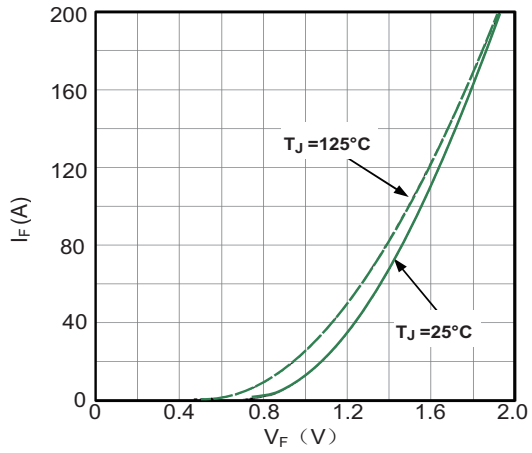


Figure 8: Switching Energy vs. Gate Resistor

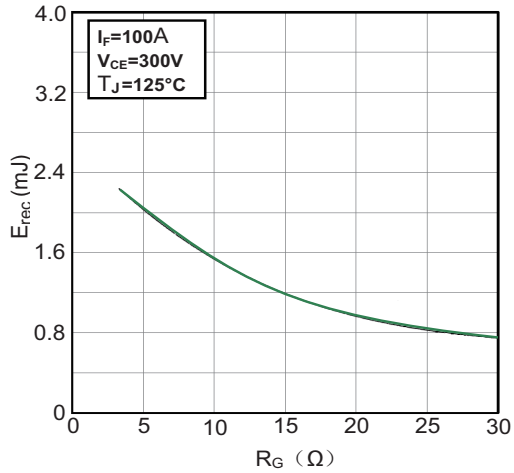


Figure 9: Switching Energy vs. Forward Current

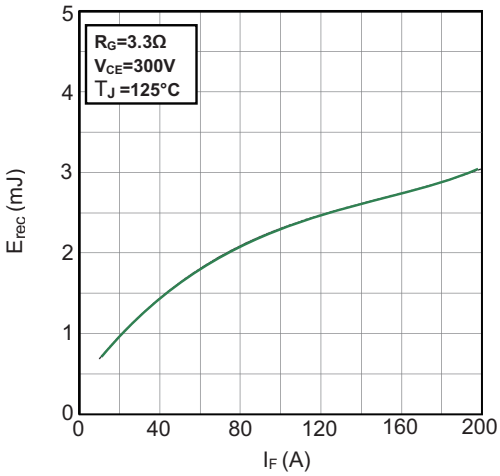


Figure 10: Transient Thermal Impedance

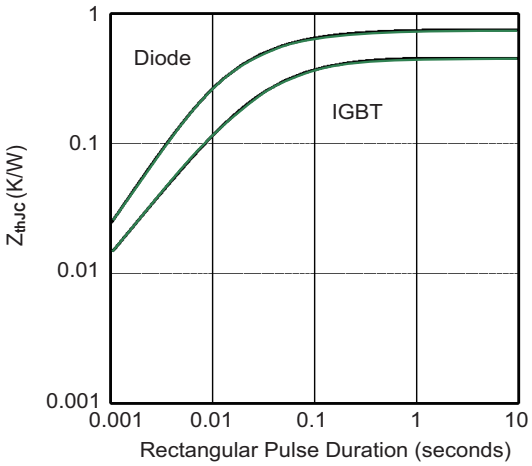
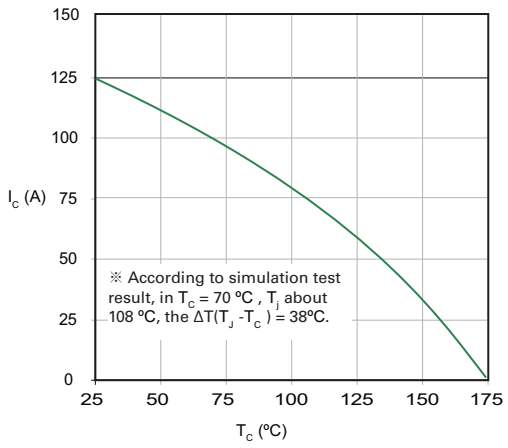
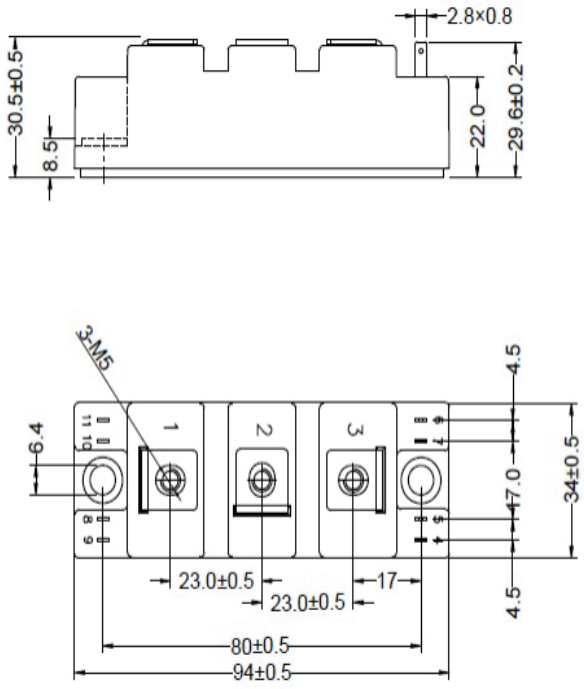


Figure 11: Maximum Continuous Collector Current vs Case Temperature

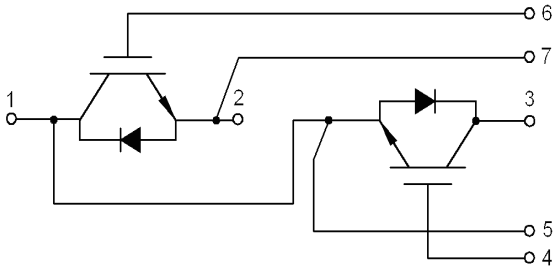


Power Module
600V 100A IGBT Module

Dimensions-Package S



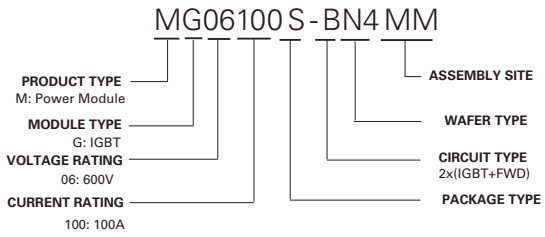
Circuit Diagram



Packing Options

Part Number	Marking	Weight	Packing Mode	M.O.Q
MG06100S-BN4MM	MG06100S-BN4MM	160g	Bulk Pack	100

Part Numbering System



Part Marking System