

1200V/200A 2 IN ONE PACKAGE

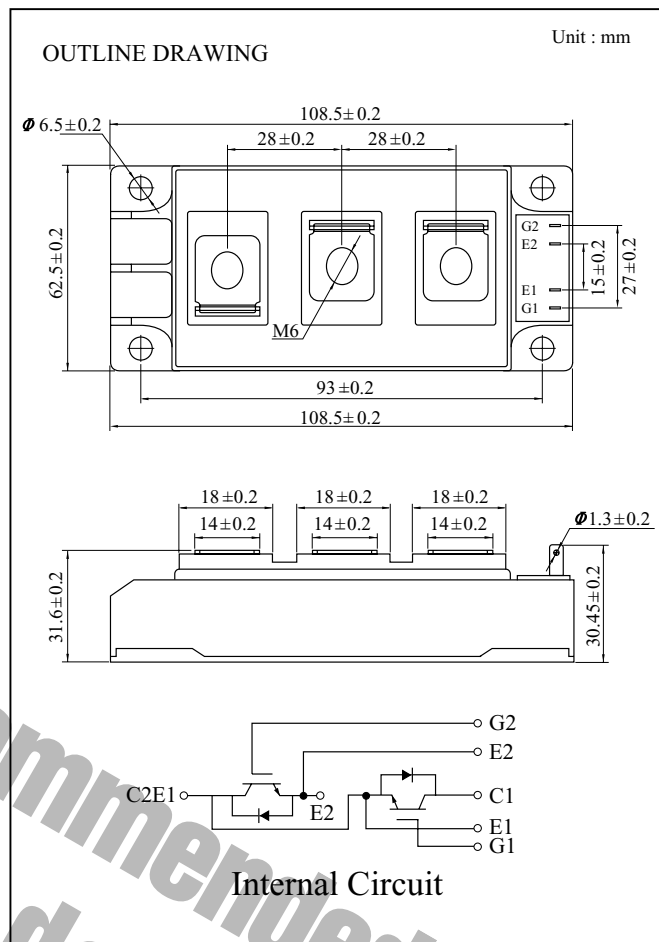
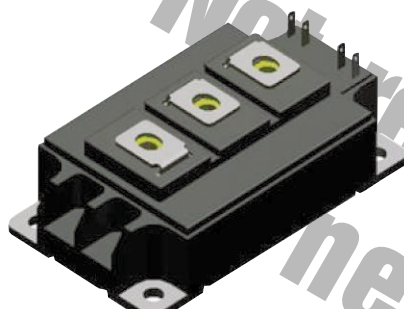
TENTATIVE

FEATURES

- IGBT New Technology
- Low $V_{CE(sat)}$
- Low Turn-off losses
- Short tail current
- Positive temperature coefficient

APPLICATION

- AC & DC Motor controls
- General purpose inverters
- Optimized for high current inverter
- Servo Controls
- UPS, Robotics



MAXIMUM RATING (@Ta=25 Per Leg)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-to-Emitter Voltage	@T _C =25	V _{CES}	1200	V
Gate-Emitter Voltage		V _{GES}	± 20	V
Continuous Collector Current	@T _C =25	I _C	260	A
	@T _C =80		200	
Pulsed Collector Current	@T _C =25	I _{CP}	400	A
Diode Continuous Forward Current	@T _C =25	I _F	260	A
	@T _C =80		200	
Diode Maximum Forward Current	@T _C =25	I _{FM}	400	A
Short Circuit Test	@T _C =25	t _p	10	μs
	@T _C =125		8	
Isolation Voltage test	AC @ 1 minute	V _{iso}	2500	V
Junction Temperature		T _j	-40 ~ 150	
Storage Temperature		T _{stg}	-40 ~ 125	
Weight of Module		Weight	360	g
Mounting Torque with screw : M6		M _d	4.0	N.m
Terminal Connection torque : M6			4.0	N.m

GM200HB12CT

STATIC CHARACTERISTICS (@Tj=25 Unless otherwise specified)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-to-Emitter Saturation Voltage	$V_{CE(ON)}$	$I_C=200A$, $V_{GE}=15V$	1.4	1.7	2.1	V
Gate Threshold Voltage	$V_{GE(th)}$	$I_C=8mA$, $V_{CE}=V_{GE}$	5.0	5.8	6.5	
Zero Gate Voltage Collector Current	I_{CES}	$V_{GE}=0V$, $V_{CE}=1200V$	-	-	5.0	mA
Gate-to-Emitter Leakage Voltage	I_{GES}	$V_{CE}=0V$, $V_{CE}=20V$	-	-	400	nA
Diode Forward Voltage Drop	V_{FM}	$I_F=200A$, $V_{GE}=0V$	1.2	1.6	1.9	V
Integrated gate resistor	R_{GINT}		-	3.8	-	Ω

ELECTRICAL CHARACTERISTICS (IGBT/DIODE)(@Ta=25 Unless otherwise specified)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
IGBT						
Input Capacitance	C _{ies}	V _{CE} =25V, V _{GE} =0V, f=1MHz	-	14420	-	nF
Ouput Capacitance	C _{oes}		-	760	-	
Reverse Transfer Capacitance	C _{res}		-	660	-	
Turn-On Delay Time	t _{d(on)}	Inductive Switching 125 V _{CC} =600V, I _C =200A, V _{GE} =± 15V,R _G =3.9 Ω	-	290	-	ns
Rise Time	t _r		-	50	-	
Turn-Off Delay Time	t _{d(off)}		-	520	-	
Fall Time	t _r		-	90	-	
DIODE						
Maximum Peak Repetitive Reverse Voltage	V _{RRM}		1200	-	-	V
Maximum Reverse leakage current	I _{RM}	V _R =1200V	-	-	350	μA
Reverse Recovery Time	t _{rr}	I _F =200A, V _R =600V, di/dt=2500A/μs	-	170	-	ns
Reverse Recovery Charge	Q _{rr}		-	18	-	μC

THERMAL CHARACTERISTIC

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX.	UNIT
Junction to Case (IGBT Part, Per 1/2 Module)	$R_{th(j-c)}$	-	-	0.09	/W
Junction to Case (Diode Part, Per 1/2 Module)	$R_{th(j-c)}$	-	-	0.17	
Case to Heat Sink (Conductive grease applied)	$R_{th(j-s)}$	-	0.03	-	

Data and specifications subject to change without notice.

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Fig 1. Typ. IGBT Output Characteristics IGBT

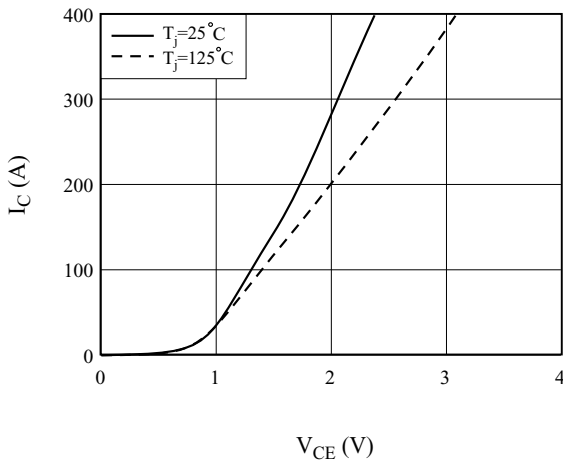


Fig 2. Typ. IGBT Out Characteristics

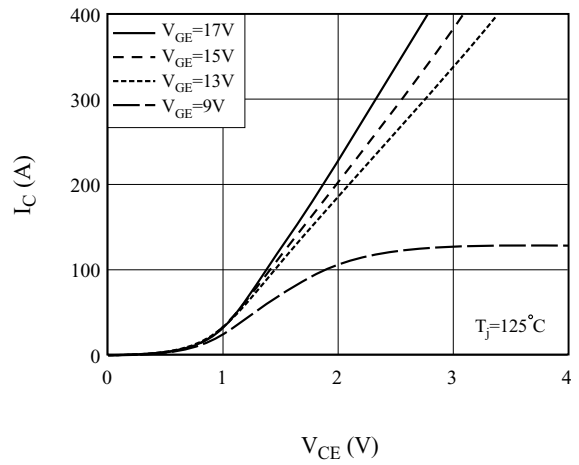


Fig 3. Typ. Transfer Characteristics IGBT

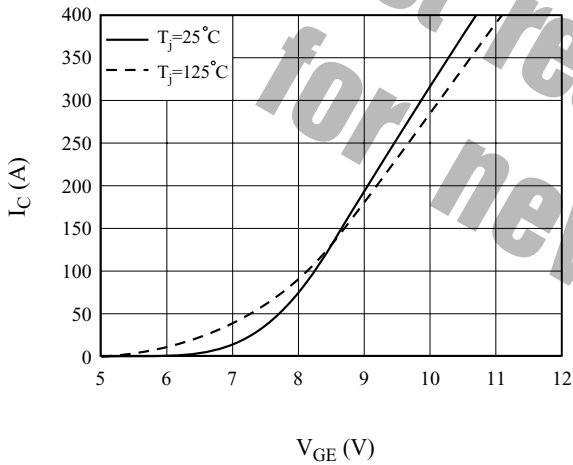


Fig 4. Reverse Bias Operating Area IGBT

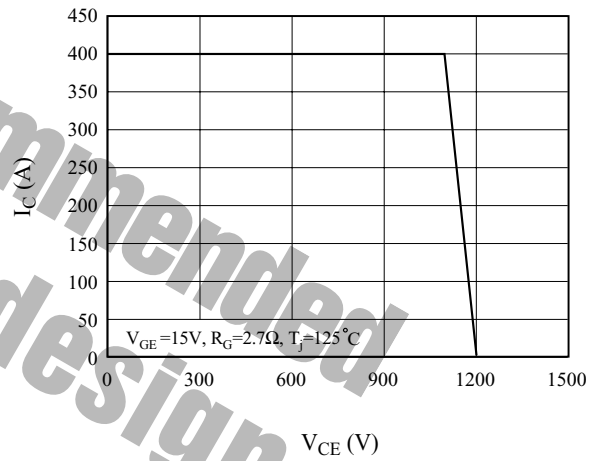


Fig 5. Forward Characteristics of Diode IGBT

