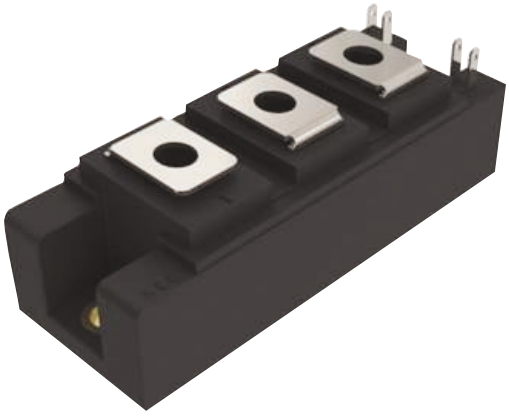
600V/200A

2-PACK IGBT MODULE (Half - Bridge)



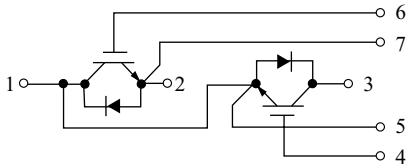
FEATURES

- Trench IGBT Technology
- Low $V_{CE(sat)}$
- Low Turn-off loss
- Short tail current

APPLICATION

- Motor Controls
- General purpose inverters
- Servo Controls

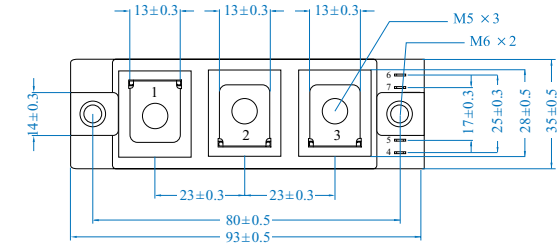
INTERNAL CIRCUIT

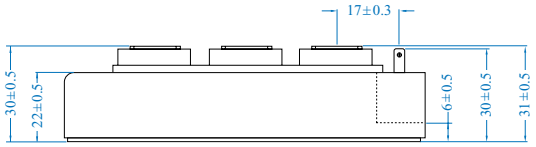


1. C2 /E1
2. E2
3. C1
4. G1
5. E1
6. G2
7. E2

OUTLINE DRAWING

Unit : mm





MAXIMUM RATING (@Tc=25℃ Per Leg, Unless otherwise noted)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-to-Emitter Voltage		V_{CES}	600	V
Gate-Emitter Voltage		V_{GES}	±20	V
Continuous Collector Current	@T_C=25℃	I_C	265	A
	@T_C=80℃		200	
Pulsed Collector Current *		I_{CP}	400	A
Diode Continuous Forward Current	@T_C=25℃	I_F	265	A
	@T_C=80℃		200	
Isolation Voltage test	AC @ 1 minute	V_{iso}	2500	V
Junction Temperature		T_j	-40 ~ +150	℃
Storage Temperature		T_{stg}	-40 ~ +125	℃
Weight		Weight	190±5	g
Mounting Torque (M6)		M	5	N.m
Terminal Connection torque (M5)		M	4	N.m

* Half sine wave at 60Hz, peak value.

ELECTRICAL CHARACTERISTICS (IGBT, @Tc=25℃ Per Leg, Unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Static						
Collector-Emitter Breakdown Voltage	BV_{CES}	I_C = 1mA, V_{GE}=0V	600	-	-	V
Collector Cut-off Current	I_{CES}	V_{CE}=650V, V_{GE}=0V	-	-	1	mA
Gate Leakage Current	I_{GES}	V_{GE}=±20V	-600	-	600	nA
Gate Threshold Voltage	$V_{GE(th)}$	V_{CE}=V_{GE}, I_C=6.6mA	5.5	-	7.7	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V_{GE}= 15V, I_C=200A	-	1.6	2.1	V
Internal Gate Resistance	R_G	-	-	2.0	-	Ω
Dynamic						
Turn On Delay Time	$t_{d(on)}$	V_{CC}= 300V, I_C=200A, R_G=3.3Ω, V_{GE}=±15V, inductive load	-	130	-	ns
Rise Time	t_r		-	320	-	
Turn Off Delay Time	$t_{d(off)}$		-	120	-	
Fall Time	t_f		-	50	-	
Turn-On Switching Loss	E_{ON}		-	8.5	-	mJ
Turn-Off Switching Loss	E_{off}		-	0.7	-	
Gate Charge	Q_{ge}	I_C = 200A, V_{CC}=400V, V_{GE}=15V	-	380	-	nC
Input Capacitance	C_{ies}	V_{CE}= 30V, V_{GE}=0V, f=1㎒	-	12.94	-	nF
Output Capacitance	C_{oes}		-	0.65	-	
Reverse Transfer Capacitance	C_{res}		-	0.34	-	
Short circuit current	I_{SC}	V_{CC}= 300V, V_{GE}=15V $t_{psc} \leq 10\mu s$	-	1100	-	A

ELECTRICAL CHARACTERISTICS (DIODE, @Tc=25℃ Per Leg, Unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Diode Forward Voltage	V_F	I_F = 200A, V_{GE}=0V	-	1.9	2..3	V
Diode Reverse Recovery Charge	Q_{rr}	I_F=200A, V_R=300V, di /dt =-900A/μs	-	2.2	-	uQ
Diode Peak Reverse Recovery Current	I_{rr}		-	240	-	A

THERMAL CHARACTERISTIC

CHARACTERISTIC	SYMBOL	MIN	TYP	MAX.	UNIT
Junction to Case (IGBT Part, Per 1/2 Module)	$R_{th(j-c)}$	-	0.3	-	℃/W
Junction to Case (Diode Part, Per 1/2 Module)	$R_{th(j-c)}$	-	0.9	-	