

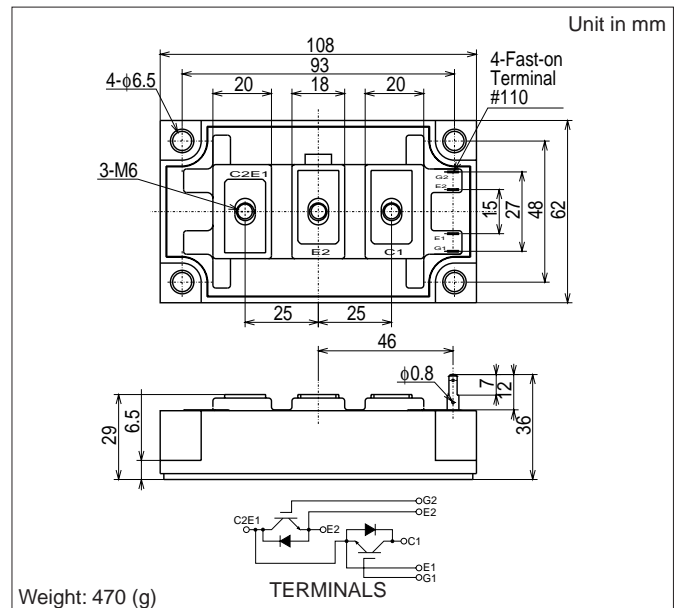
MBM400JS6AW

Silicon N-channel IGBT

OUTLINE DRAWING

FEATURES

- * High speed and low saturation voltage.
- * low noise due to built-in free-wheeling diode - ultra soft fast recovery diode(USFD).
- * Isolated head sink (terminal to base).



ABSOLUTE MAXIMUM RATINGS (T_c=25°C)

Item	Symbol	Unit	MBM400JS6AW
Collector Emitter Voltage	V _{CES}	V	600
Gate Emitter Voltage	V _{GES}	V	±20
Collector Current	DC	A	400
	1ms		800
Forward Current	DC	A	400 (1)
	1ms		800
Collector Power Dissipation	P _c	W	1,470
Junction Temperature	T _j	°C	-40 ~ +150
Storage Temperature	T _{stg}	°C	-40 ~ +125
Isolation Voltage	V _{ISO}	V _{RMS}	2,500(AC 1 minute)
Screw Torque	Terminals	-	2.94(30) (2)
	Mounting	-	2.94(30) (3)

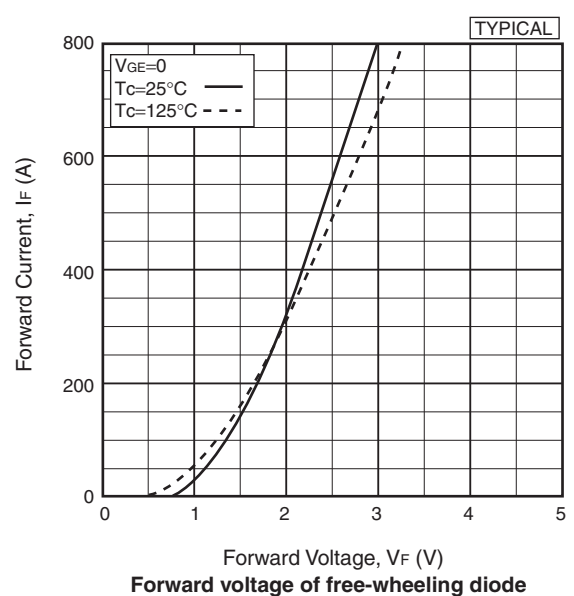
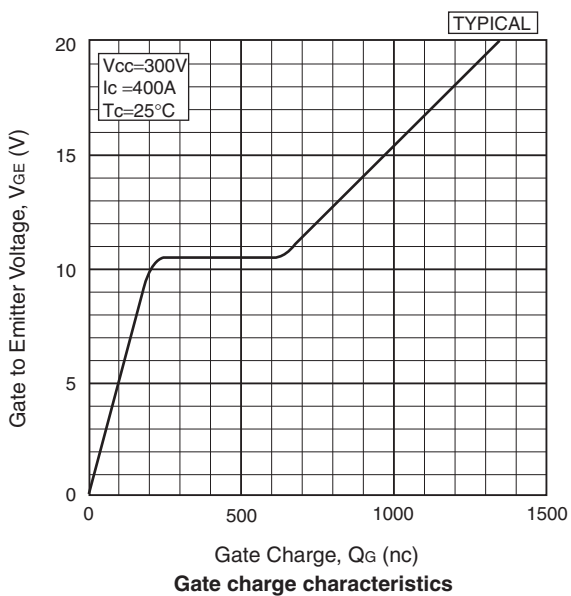
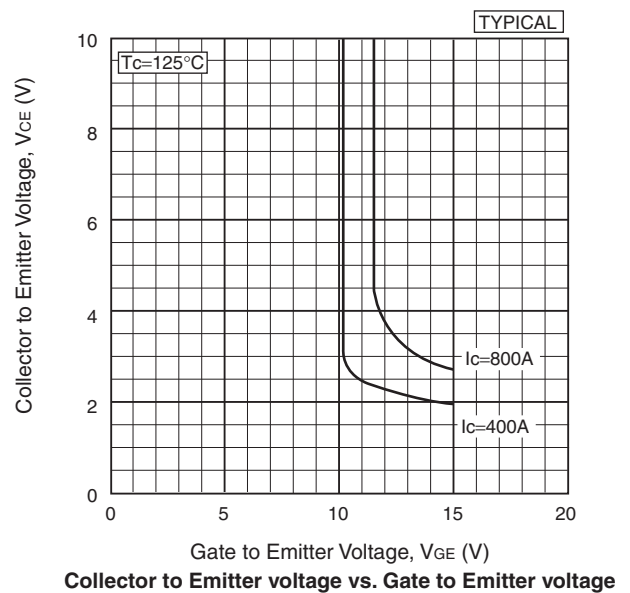
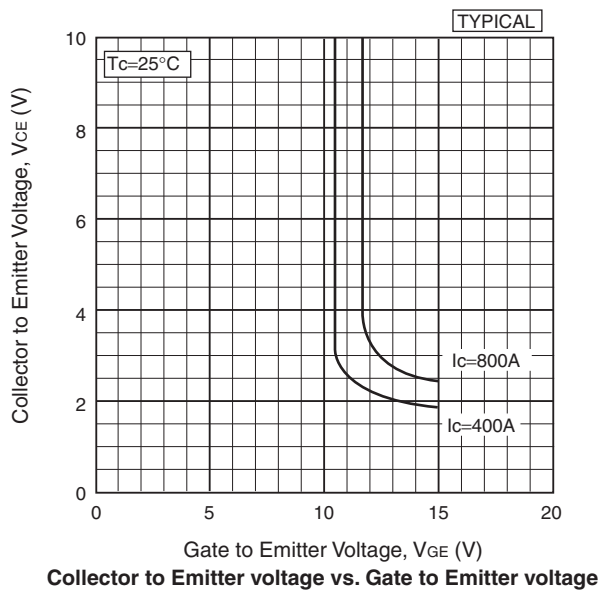
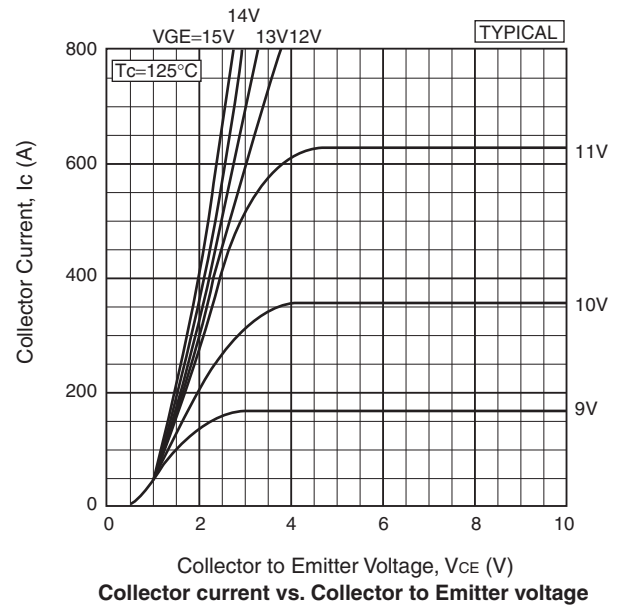
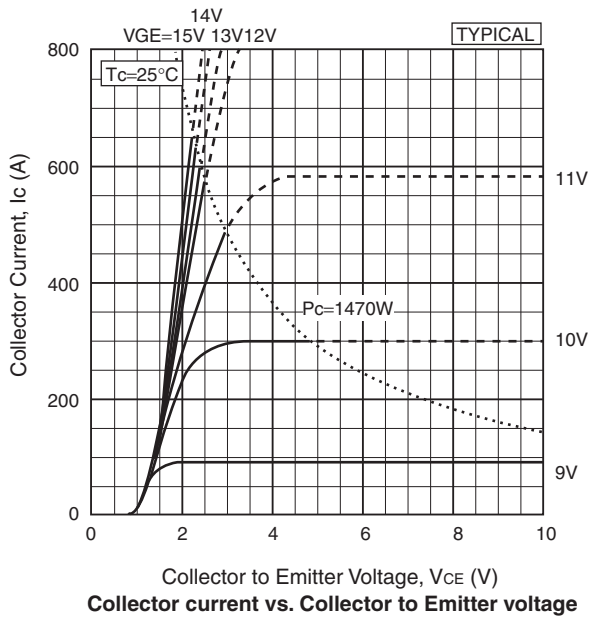
Notes:(1)RMS Current of Diode 120Arms max.

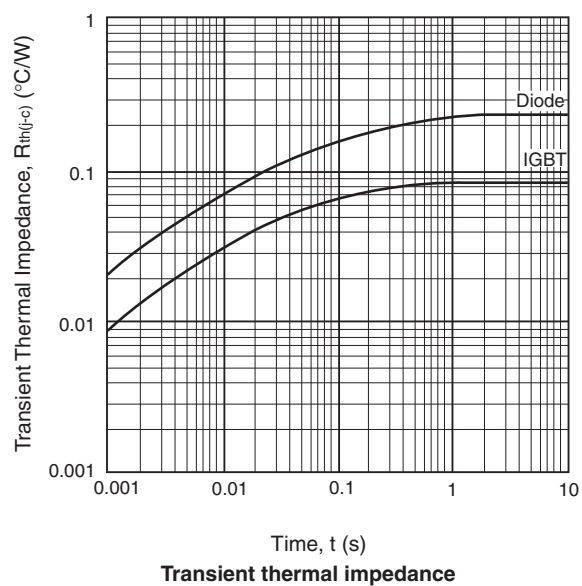
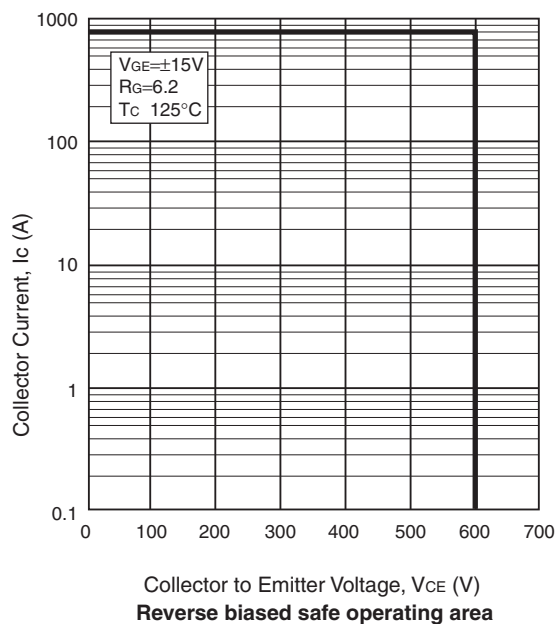
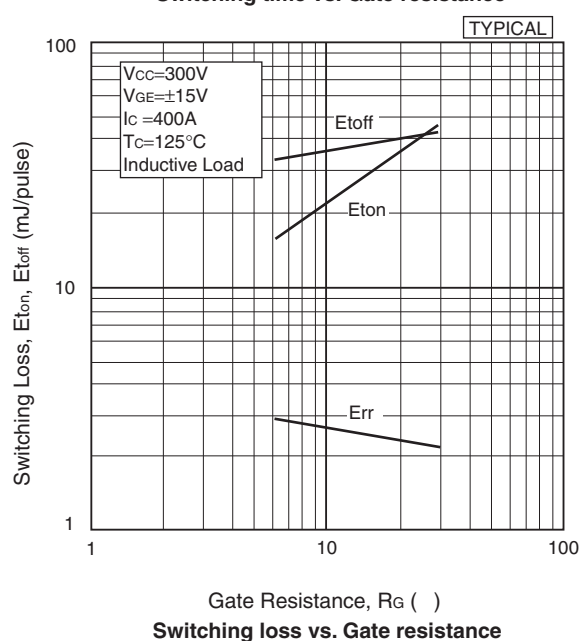
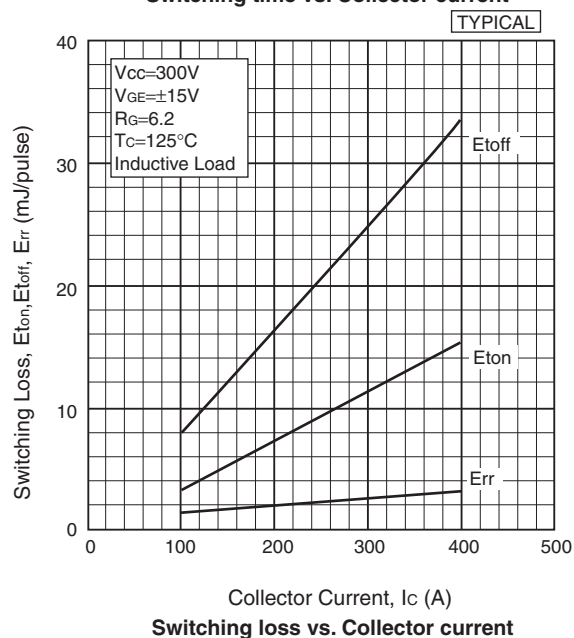
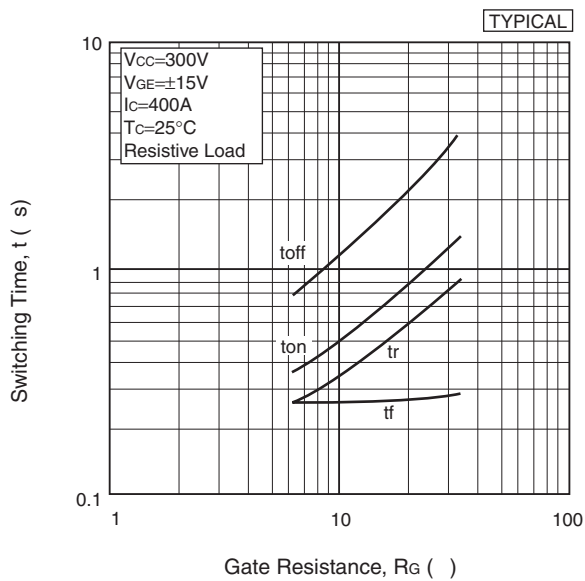
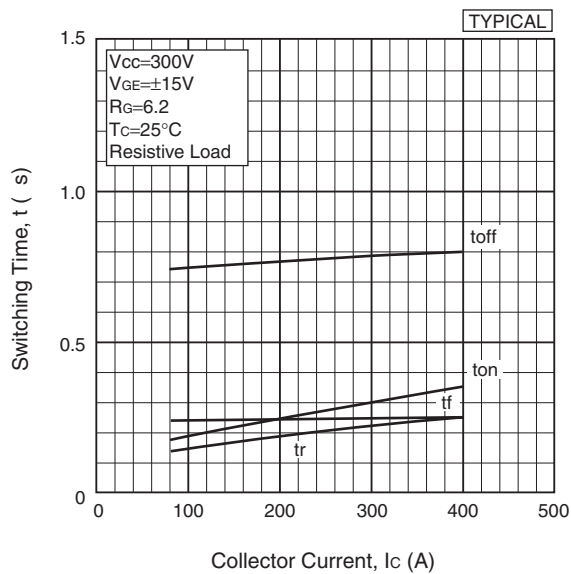
(2)(3)Recommended Value 2.45N.m(25kgf.cm)

CHARACTERISTICS (T_c=25°C)

Item	Symbol	Units	Min.	Typ.	Max.	Test Conditions
Collector Emitter Cut-Off Current	I _{CES}	mA	-	-	1.0	V _{CE} =600V, V _{GE} =0V
Gate Emitter Leakage Current	I _{GES}	nA	-	-	±500	V _{GE} =±20V, V _{CE} =0V
Collector Emitter Saturation Voltage	V _{CE(sat)}	V	-	1.9	2.4	I _C =400A, V _{GE} =15V
Gate Emitter Threshold Voltage	V _{GE(TH)}	V	-	-	10	V _{CE} =5V, I _C =400mA
Input Capacitance	C _{ies}	pF	-	24,000	-	V _{CE} =10V, V _{GE} =0V, f=1MHz
Switching Times	Rise Time	t _r	-	0.25	0.5	V _{CC} =300V
	Turn On Time	t _{on}	-	0.35	0.7	R _L =0.75Ω
	Fall Time	t _f	-	0.25	0.35	R _G =6.2Ω (4)
	Turn Off Time	t _{off}	-	0.8	1.1	V _{GE} =±15V
Peak Forward Voltage Drop	V _{FM}	V	-	2.2	3.0	I _F =400A, V _{GE} =0V
Reverse Recovery Time	t _{rr}	μs	-	-	0.3	I _F =400A, V _{GE} =-10V, di/dt=400A/μs
Thermal Impedance	IGBT	R _{th(j-c)}	°C/W	-	-	0.085
	FWD	R _{th(j-c)}	°C/W	-	-	0.22

Notes:(4) R_G value is the test condition's value for decision of the switching times, not recommended value.Determine the suitable R_G value after the measurement of switching waveforms (overshoot voltage, etc.) with appliance mounted





HITACHI POWER SEMICONDUCTORS

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