

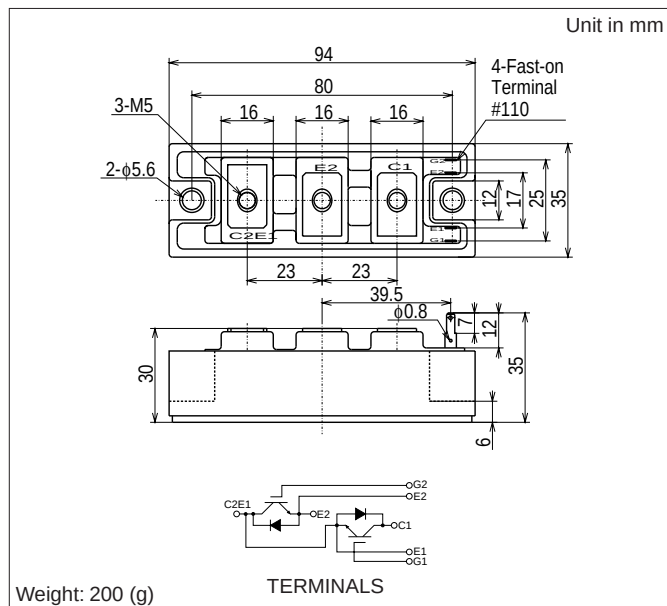
MBM150GS6AW

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 (Tc=25°C)

Item	Symbol	Unit	MBM150GS6AW
Collector Emitter Voltage	V_{CES}	V	600
Gate Emitter Voltage	V_{GES}	V	±20
Collector Current	DC	A	150 (1)
	1ms		300
Forward Current	DC	A	150
	1ms		300
Collector Power Dissipation	P_c	W	450
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	-	1.96(20) (2)
	Mounting	-	1.96(20) (3)

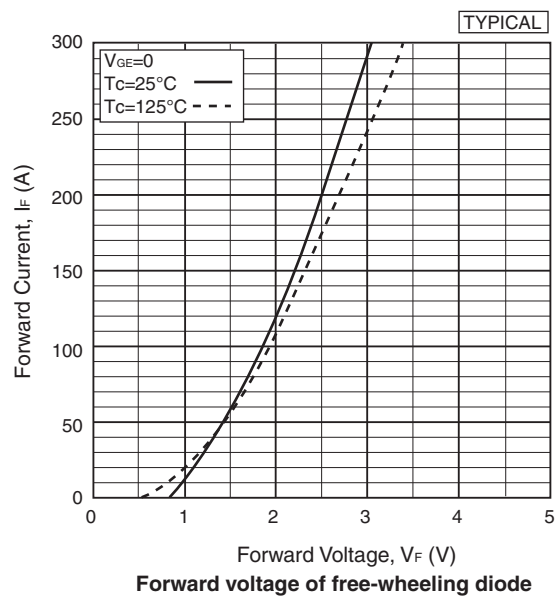
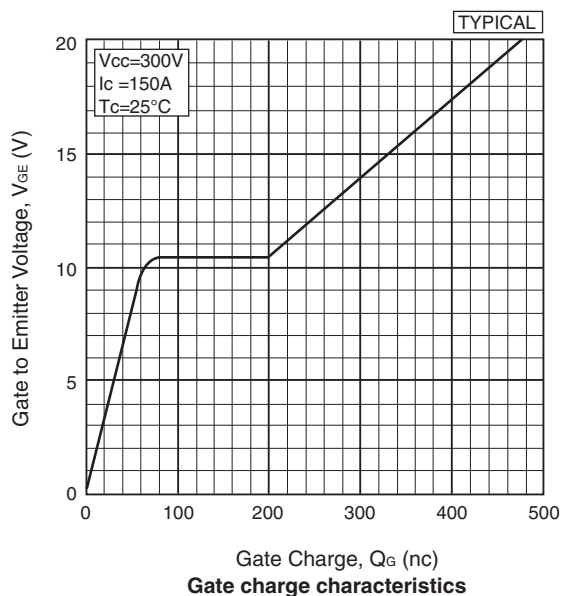
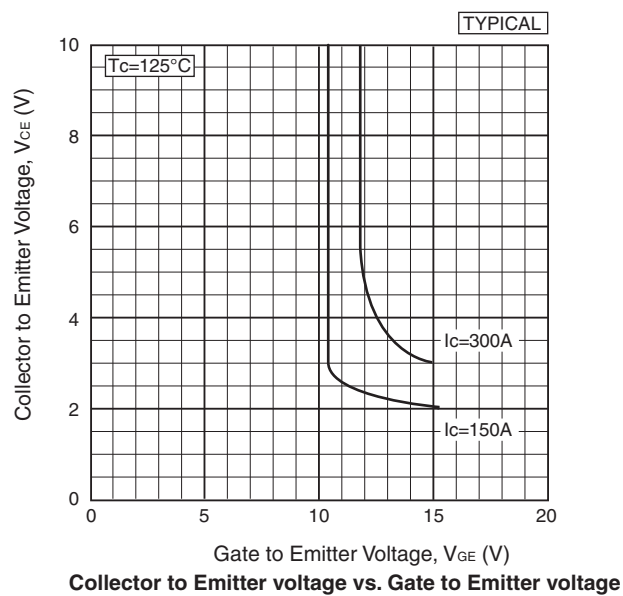
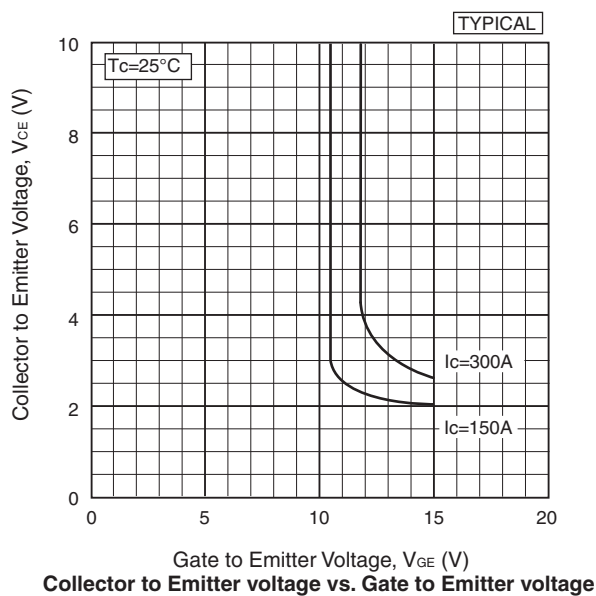
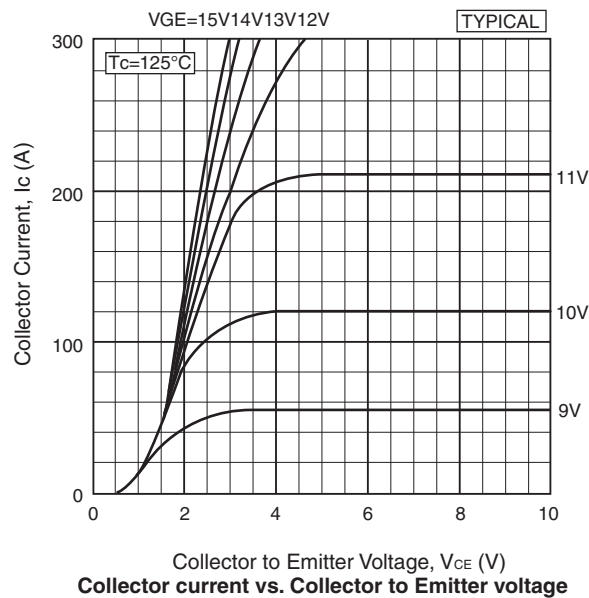
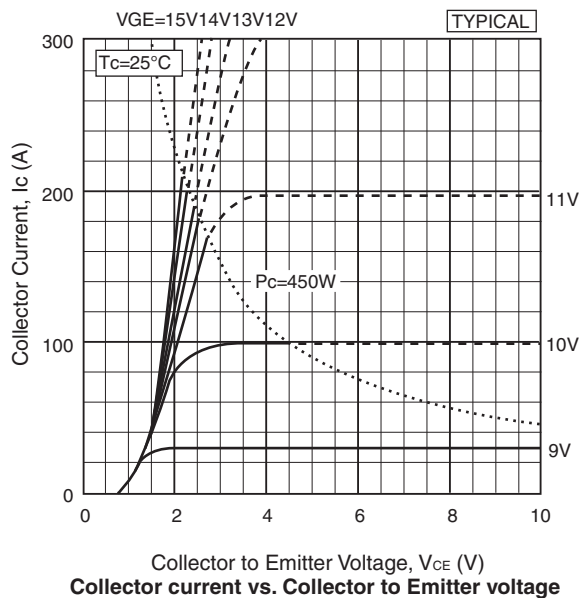
Notes:(1)RMS Current of Diode 45Arms max.

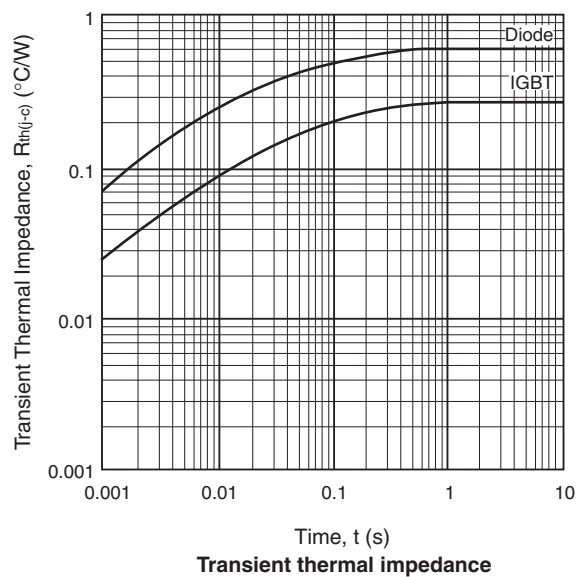
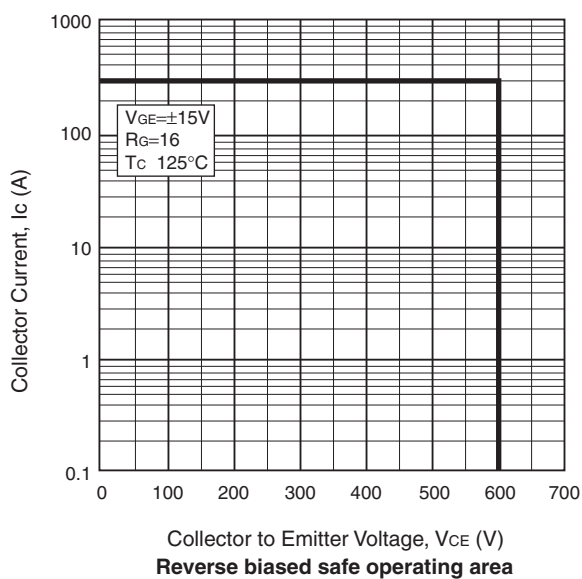
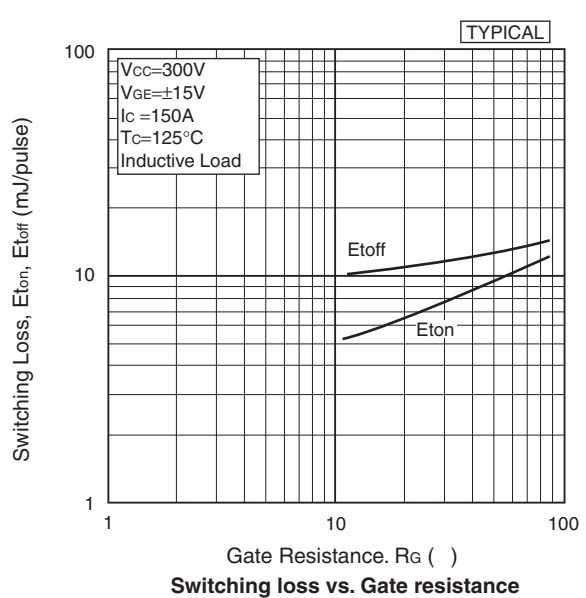
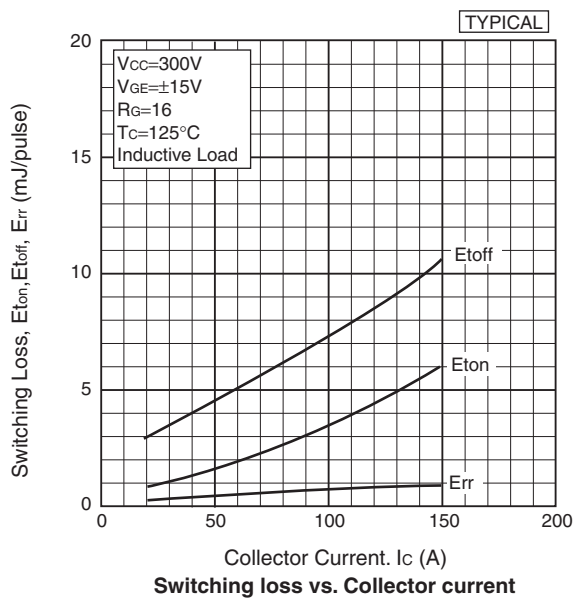
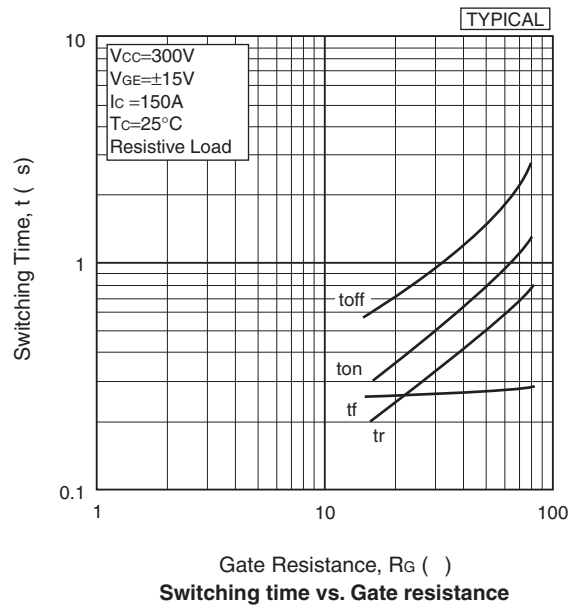
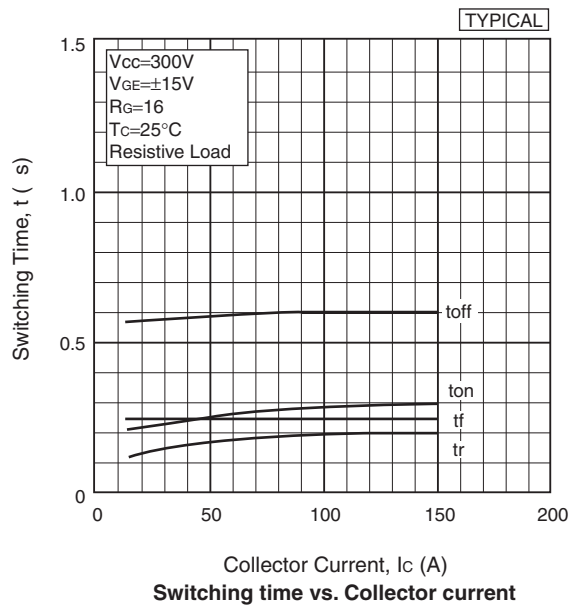
(2)(3)Recommended Value 1.67N.m(17kgf.cm)

CHARACTERISTICS (Tc=25°C)

Item	Symbol	Unit	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	2.5	$I_C=150A, V_{GE}=15V$
Gate Emitter Threshold Voltage	$V_{GE(TH)}$	V	-	-	10	$V_{CE}=5V, I_C=150mA$
Input Capacitance	C_{ies}	pF	-	7,400	-	$V_{CE}=10V, V_{GE}=0V, f=1MHz$
Switching Times	Rise Time	t_r	-	0.2	0.4	$V_{CC}=300V$
	Turn On Time	t_{on}	-	0.3	0.6	$R_L=2.0\Omega$
	Fall Time	t_f	-	0.25	0.35	$R_G=16\Omega$ (4)
	Turn Off Time	t_{off}	-	0.6	0.9	$V_{GE}=±15V$
Peak Forward Voltage Drop	V_{FM}	V	-	2.2	3.0	$I_F=150A, V_{GE}=0V$
Reverse Recovery Time	t_{rr}	μs	-	-	0.3	$I_F=150A, V_{GE}=-10V, di/dt=200A/\mu s$
Thermal Impedance	IGBT	IGBT	$R_{th(j-c)}$	-	-	0.28 Junction to case
	FWD	FWD	-	-	0.6	

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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