

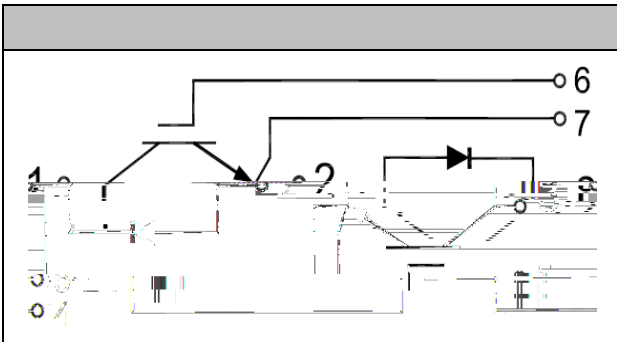


IGBT Modules

V_{CES}	1200V
I_c	200A

Applications

- High frequency drivers
- Solar inverters
- UPS (Uninterruptible Power Supplies)
- Electric welding machine



Features

- High speed IGBT in NPT technology
- Low switching losses
- High short circuit capability(10us)
- Including ultra fast & soft recovery anti-parallel FWD
- Low inductance
- Maximum junction temperature 150

● IGBT

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Collector-Emitter Voltage	V_{CES}	$V_{GE}=0V, I_c =1mA, T_{vj}=25$	1200	V
Continuous Collector Current	I_c	$T_c=80$	200	A
Repetitive Peak Collector Current	I_{CRM}	$t_p=1ms$	400	A
Gate-Emitter Voltage	V_{GES}	$T_{vj}=25$	20	V
Total Power Dissipation	P_{tot}	$T_c=25$ $T_{vjmax}=150$	1358	W



MG200HF12LEC2



Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Gate-emitter Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}, I_C=8mA, T_{vj}=25$	5.0	5.8	6.5	V
Collector-Emitter Cut-off Current	I_{CES}	$V_{CE}=1200V, V_{GE}=0V, T_{vj}=25$			1.0	mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=200A, V_{GE}=15V, T_{vj}=25$		3.0	3.5	V
		$I_C=200A, V_{GE}=15V, T_{vj}=125$		3.8		
Gate Charge	Q_G			2.0		uC
Input Capacitance	C_{ies}	$V_{CE}=25V, V_{GE}=0V,$ $f=1MHz, T_{vj}=25$		13.2		nF
Reverse Transfer Capacitance	C_{res}				0.8	

Gate



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● Diode

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	$T_{vj}=25$	1200	V
Continuous DC Forward Current	I_F		200	A
Repetitive Peak Forward Current	I_{FRM}	$t_p=1\text{ms}$	400	A

Characteristic values

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Forward Voltage	V_F	$I_F=200\text{A}, T_{vj}=25$		1.90	2.3	V
		$I_F=200\text{A}, T_{vj}=125$		1.95		
Recovered Charge	Q_{rr}	$I_F=200\text{A}$		11.5		μC
Peak Reverse Recovery Current	I_{rr}	$V_R=600\text{V}$ $-di_F/dt=2500\text{A}/\mu\text{s}$		105		A
Reverse Recovery Energy	E_{rec}	$T_{vj}=25$		6.8		mJ
Recovered Charge	Q_{rr}	$I_F=200\text{A}$		20.8		μC
Peak Reverse Recovery Current	I_{rr}	$V_R=600\text{V}$ $-di_F/dt=2500\text{A}/\mu\text{s}$		124		A
Reverse Recovery Energy	E_{rec}	$T_{vj}=125$		13.8		mJ



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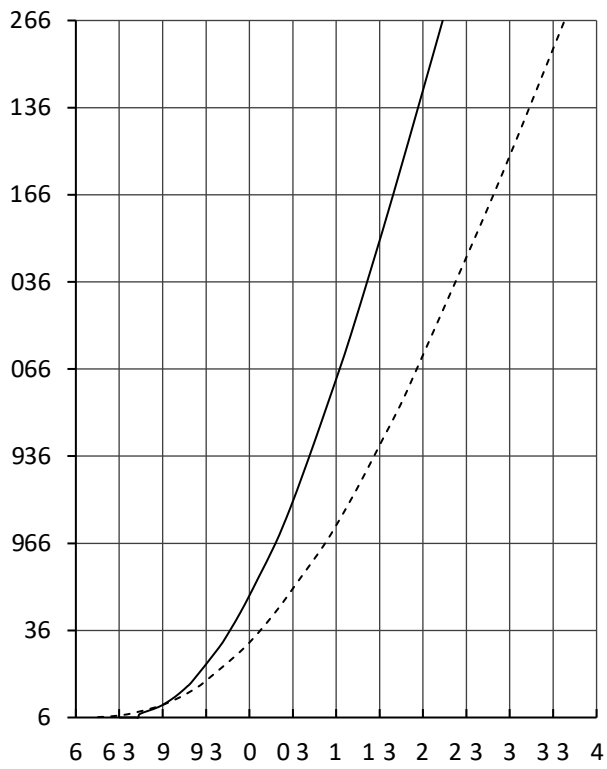


● Module Characteristics $T_C=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Isolation voltage	V_{isol}	$t=1\text{min}, f=50\text{Hz}$	2500			V
Maximum Junction Temperature	T_{jmax}				150	
Operating Junction Temperature	T_{vjop}		-40		125	
Storage Temperature	T_{stg}		-40		125	
Thermal Resistance Junction-to Case	R_{JC}	per IGBT			0.09	K/W
		per Diode			0.19	
Thermal Resistance Case-to Sink	R_{CS}	Conductive grease applied		0.046		K/W
Module Electrodes Torque	M_t	Recommended(M6)	3.0		5.0	N·m
Module-to-Sink Torque	M_s	Recommended(M6)	3.0		5.0	N·m
Weight of Module	G			315		g

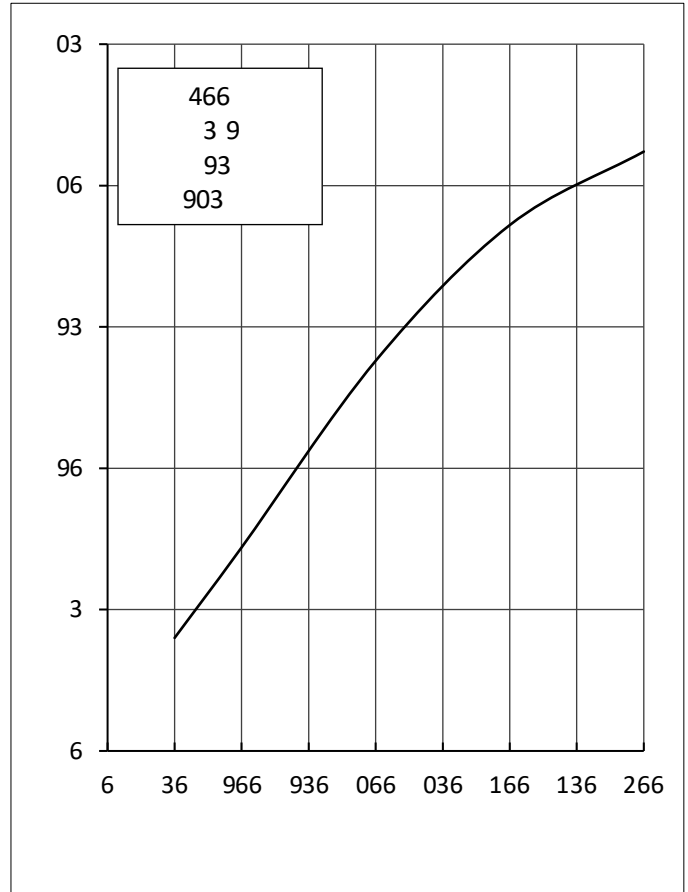
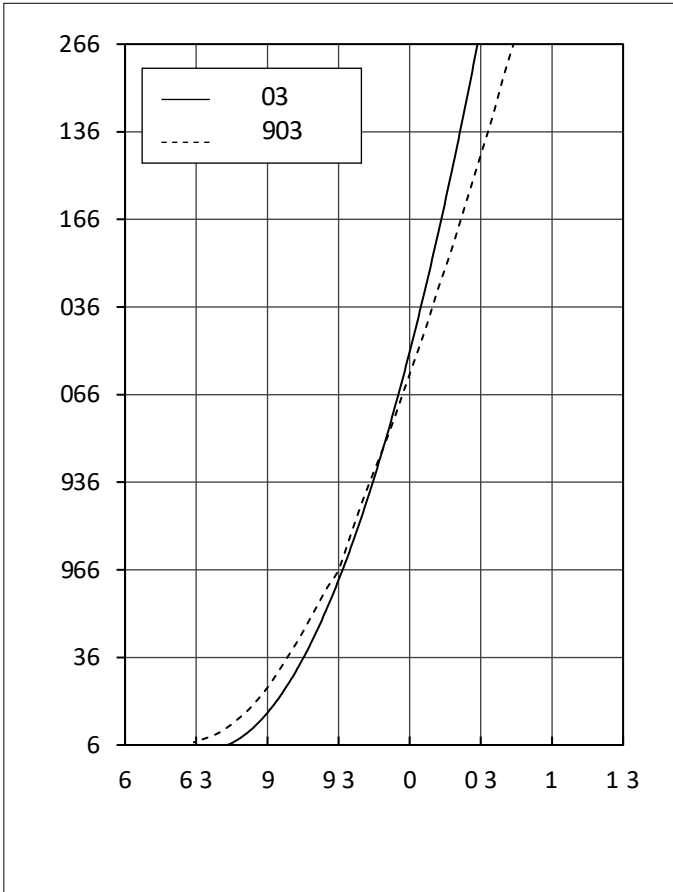
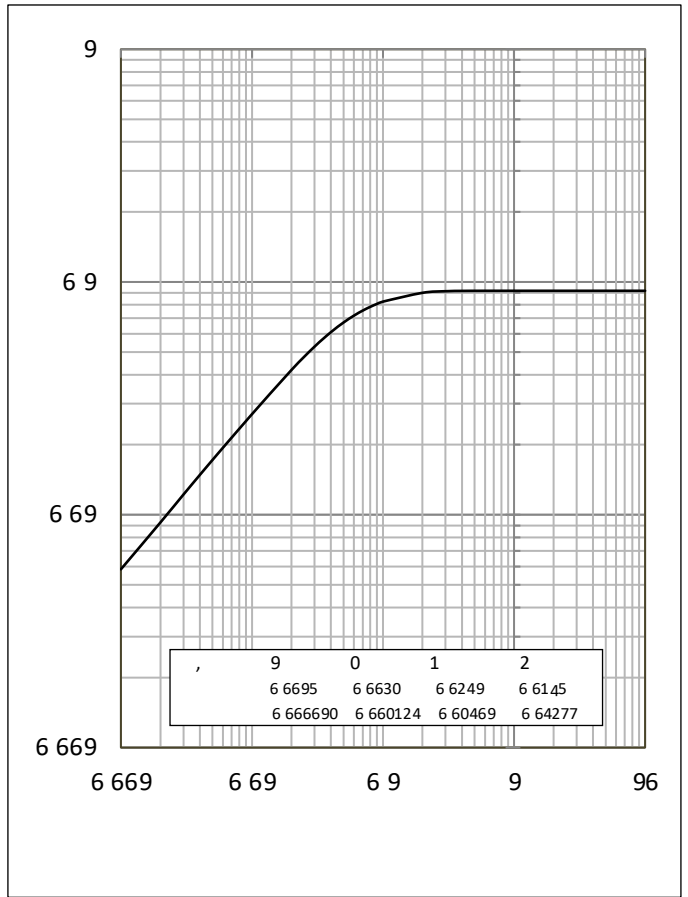
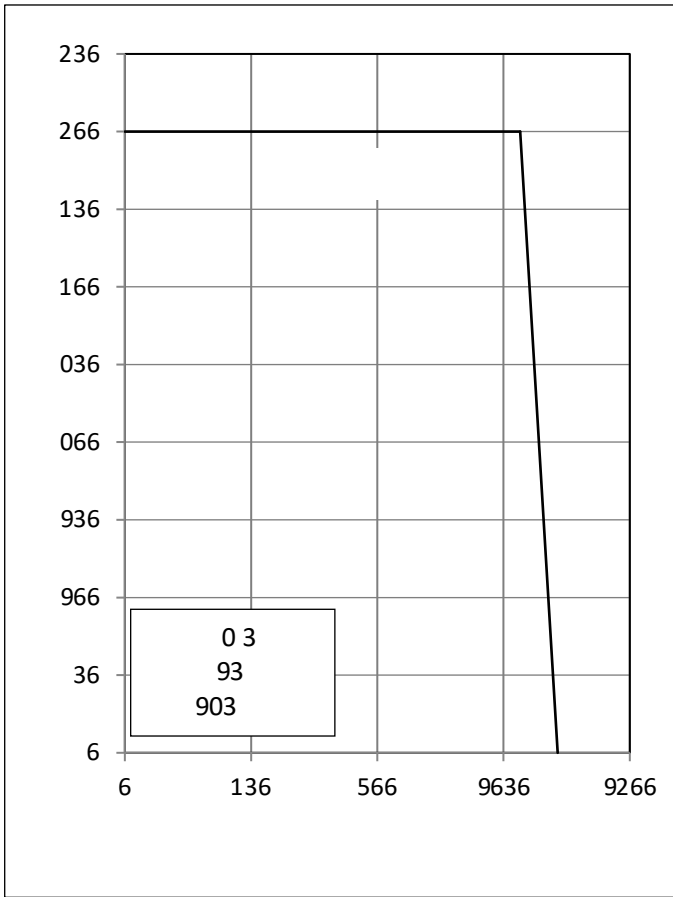


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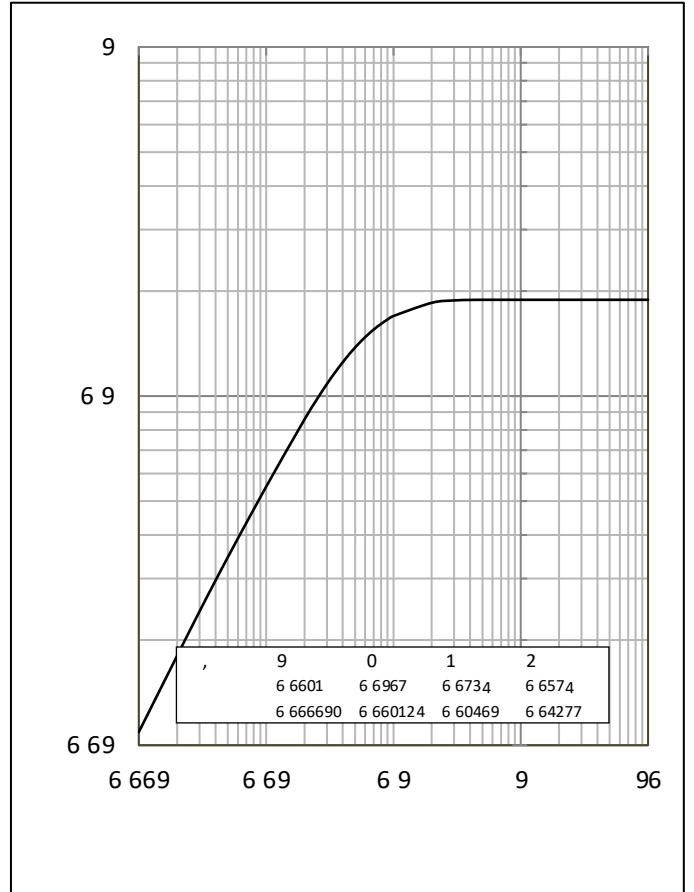
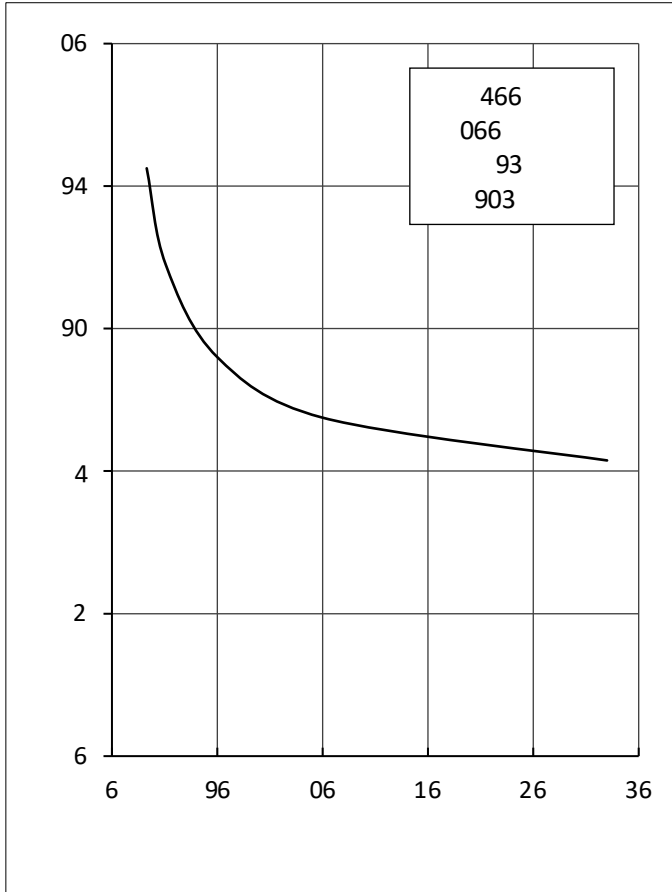


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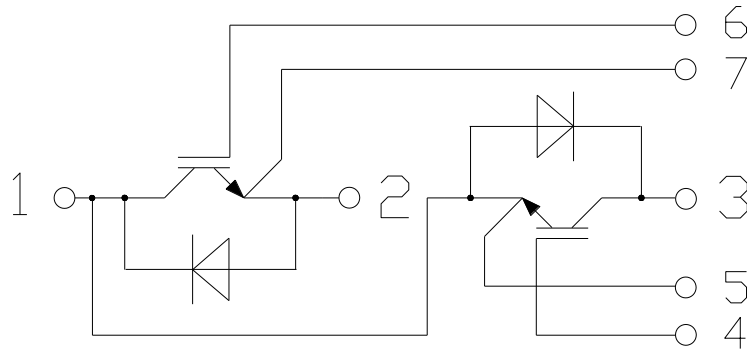
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● Circuit Diagram



● Package Outline Information

Dimensions in Millimeters

