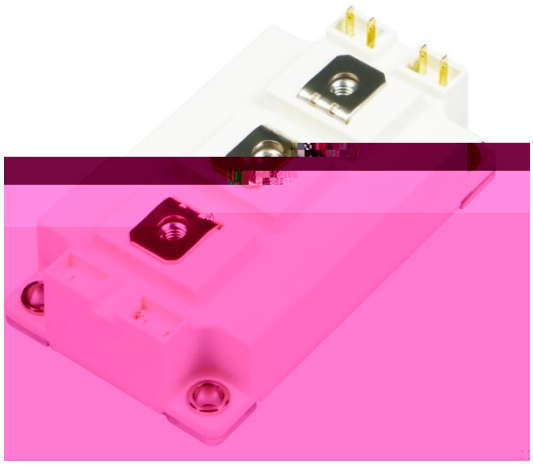


1200V
150A

Inverter for motor drive
AC and DC servo drive amplifier
UPS (Uninterruptible Power Supplies)
Soft switching welding machine

Circuit

Low $V_{CE(sat)}$ with Trench technology
Vce(sat) with positive temperature coefficient
High short circuit capability(10us)
Including ultra fast & soft recovery anti-parallel FWD
Low inductance
Maximum junction temperature 175

Collector-Emitter Voltage	V_{CES}	V_{GE}=0V, I_C =1mA, T_{vj}=25	1200	V
Continuous Collector Current	I_C	T_c=100	150	A
Repetitive Peak Collector Current	I_{CRM}	t_p=1ms	300	A
Gate-Emitter Voltage	V_{GES}	T_{vj}=25	20	V
Total Power Dissipation	P_{tot}	T_c=25 T_{vjmax}=175	833	W

Gate-Emitter Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}$, I_C=4mA,T_{vj}=25	5.2	5.9	6.4	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=150A,V_{GE}=15V, T_{vj}=25		1.90	2.30	V
		I_C=150A,V_{GE}=15V, T_{vj}=125		2.05		
		I_C=150A,V_{GE}=15V, T_{vj}=150		2.20		
Gate Charge	Q_G			1.56		uC
Input Capacitance	C_{ies}	V_{CE}=25V,V_{GE} =0V, f=1MHz,T_{vj}=25		11.0		nF
Reverse Transfer Capacitance	C_{res}			0.5		nF
Gate-Emitter leakage current	I_{GES}	V_{CE}=0V, V_{GE}=20V,T_{vj}=25			400	nA
Turn-on Delay Time	$t_{d(on)}$	I_C=150A V_{CE}=600V V_{GE}=± 15V R_G=4.7Ω T_{vj}=25		196		ns
Rise Time	t_r			57		ns
Turn-off Delay Time	t					

Repetitive Peak Reverse Voltage	V_{RRM}	T_{vj}=25	1200	V
Continuous DC Forward Current	I_F		150	A
Repetitive Peak Forward Current	I_{FRM}	t_p=1ms	300	A

		I_F=150A,T_{vj}=25		1.941		
Forward Voltage	V_F					

l TJ ET O EMC /Span <</MCID 100/Lang (en-US) BDC q 389.83 529.03 35.54 re 37 gm 25.44 re.52 BDC q 63.98G [( )] l TJ ET O EMC O 50.055384955 0 G [(l)]TJ ET O EMC /Span <</MCID 95/L121.624 re W*

Isolation voltage	V_{isol}	t=1min,f=50Hz	2500			V
Maximum Junction Temperature	T_{jmax}				175	
Operating Junction Temperature	$T_{vj\ op}$		-40		150	
Storage Temperature	T_{stg}		-40		125	
Thermal Resistance Junction to Case	$R_{\theta JC}$	per IGBT			0.18	K/W
		per Diode			0.31	
Thermal Resistance Case to Sink	$R_{\theta CS}$	Conductive grease applied		0.012	0.035	K/W
Module ElectrodesTorque	M_t	Recommended(M6)	3.0		5.0	N·m
Module to SinkTorque	M_s	Recommended(M6)	3.0		5.0	N·m
Weight of Module	G			315		g

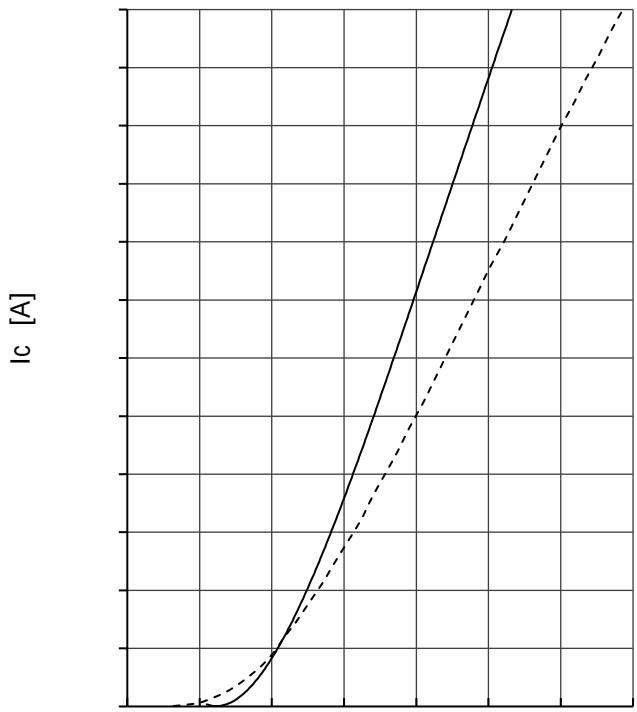
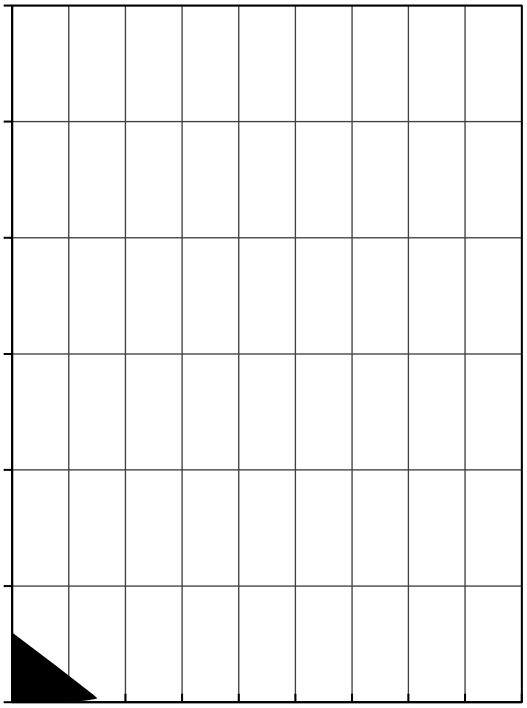
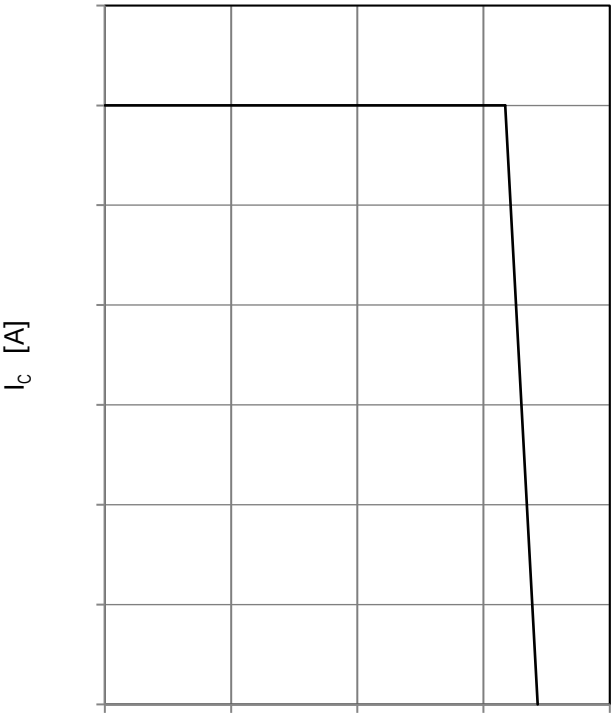


Fig1.IGBT Output Characteristics




I_C [A]

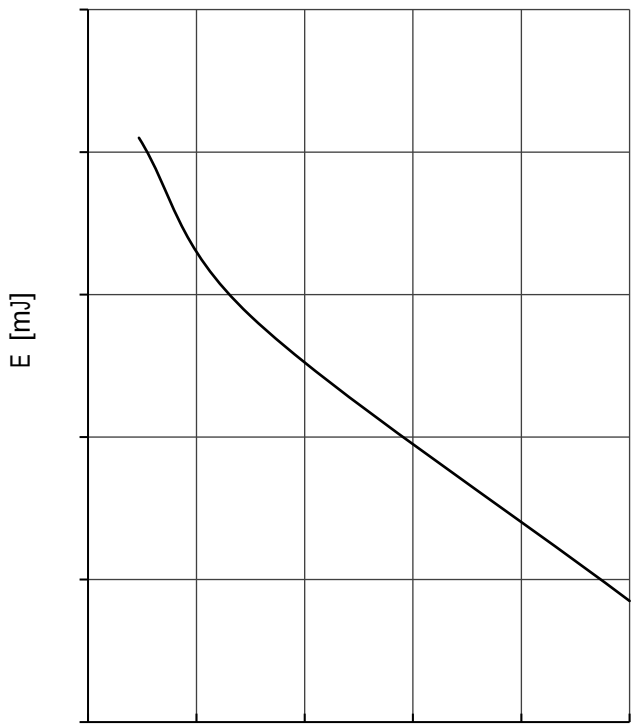
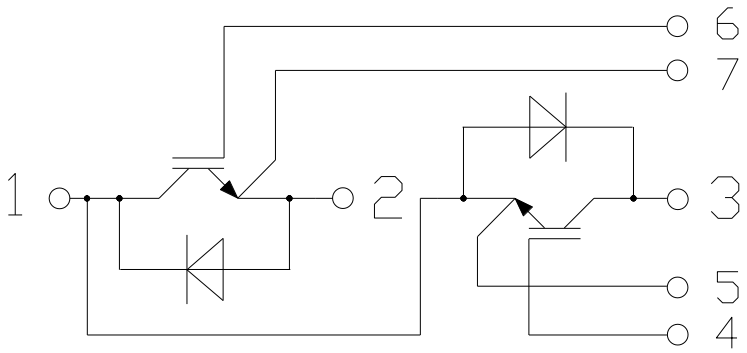


Fig9.Diode Switching Loss vs.Rg



Package Outline Information