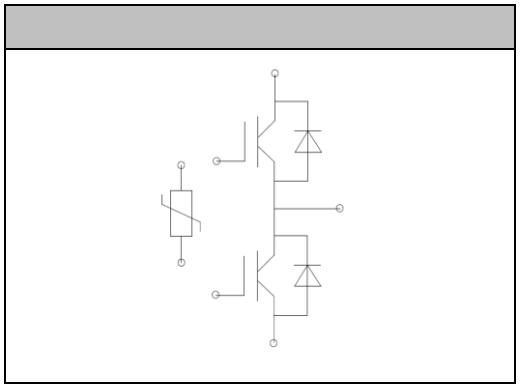


1200V
300A

- Motion/sevo control
- High frequency switching application
- UPS (Uninterruptible Power Supplies)
- Welding machine



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

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Collector-Emitter Voltage	V_{CES}	V_{GE}=0V, I_C=1mA, T_{vj}=25℃	1200	V
Continuous Collector Current	I_C	T_C=100℃	300	A
Repetitive Peak Collector Current	I_{CRM}	t_p=1ms	600	A
Gate-Emitter Voltage	V_{GES}	T_{vj}=25℃	±20	V
Total Power Dissipation	P_{tot}	T_C=25℃ T_{vjmax}=175℃	1850	W

Gate-emitter Threshold Voltage	$V_{GE(th)}$	$V_{GE}=V_{CE}$, I_C=11mA,T_{vj}=25℃	5.2	5.8	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=300A,V_{GE}=15V, T_{vj}=25℃		1.90	2.30	V
		I_C=300A,V_{GE}=15V, T_{vj}=125℃		2.20		
		I_C=300A,V_{GE}=15V, T_{vj}=150℃		2.35		
Gate Charge	Q_G			2.65		uC
Internal Gate Resistance	R_{Gint}			1.25		
Input Capacitance	C_{ies}	V_{CE}=25V,V_{GE}=0V, f=1MHz,T_{vj}=25℃		26.4		nF
Reverse Transfer Capacitance	C_{res}			0.81		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=300A V_{CE}=600V V_{GE}=± 15V R_G=1.3Ω T_{vj}=25℃		86		ns
Rise Time	t_r			58		ns
Turn-off Delay Time	$t_{d(off)}$			226		ns
Fall Time	t_f			190		ns
Energy Dissipation During Turn-on Time	E_{on}			26.3		mJ
Energy Dissipation During Turn-off Time	E_{off}			21.6		mJ
Turn-on Delay Time	$t_{d(on)}$	I_C=300A V_{CE}=600V V_{GE}=± 15V R_G=1.3Ω T_{vj}=150℃		91		ns
Rise Time	t_r			64		ns
Turn-off Delay Time	$t_{d(off)}$			259		ns
Fall Time	t_f			246		ns
Energy Dissipation During Turn-on Time	E_{on}			37.8		mJ
Energy Dissipation During Turn-off Time	E_{off}			25.8		mJ
SC Data	I_{sc}	t_p≤10us, V_{GE}=15V, T_{vj}=150℃, V_{CC}=900V, V_{CEM}≤1200V		1200		A

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Repetitive Peak Reverse Voltage	V_{RRM}	T_{vj}=25℃	1200	V
Continuous DC Forward Current	I_F		300	A
Repetitive Peak Forward Current	I_{FRM}	t_p=1ms	600	A
I^2t-value	I^2t	V_R=0V,t_p=10ms,T_{vj}=125℃	18200	A^2s
		V_R=0V,t_p=10ms,T_{vj}=150℃	14500	

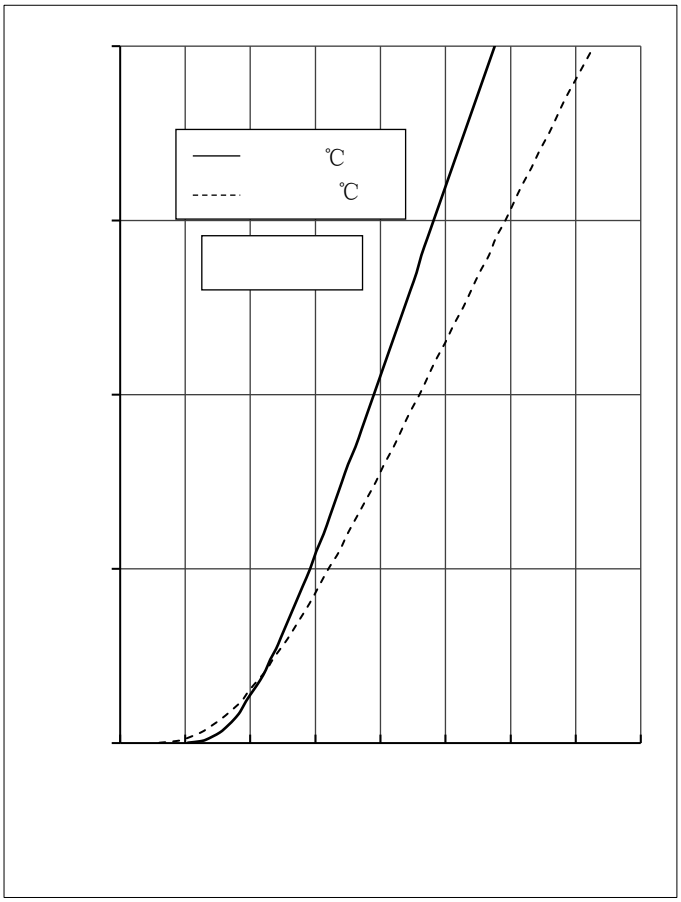
Forward Voltage	V_F	I_F=300A,T_{vj}=25℃		1.95		V
		I_F=300A,T_{vj}=125℃		1.80		
		I_F=300A,T_{vj}=150℃		1.75		
Recovered Charge	Q_{rr}	I_F=300A V_R=600V -di$_F$/dt=1800A/us T_{vj}=25℃		20.6		uC
Peak Reverse Recovery Current	I_{rr}			153		A
Reverse Recovery Energy	E_{rec}			7.4		mJ
Recovered Charge	Q_{rr}	I_F=300A V_R=600V -di$_F$/dt=1800A/us T_{vj}=150℃		47.2		uC
Peak Reverse Recovery Current	I_{rr}			210		A
Reverse Recovery Energy	E_{rec}			17.6		mJ

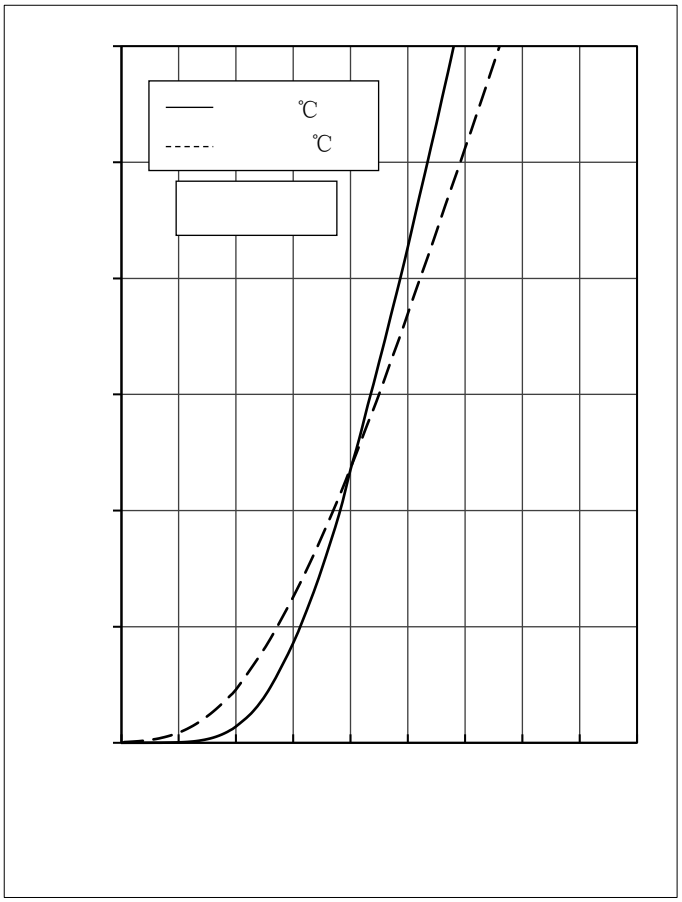
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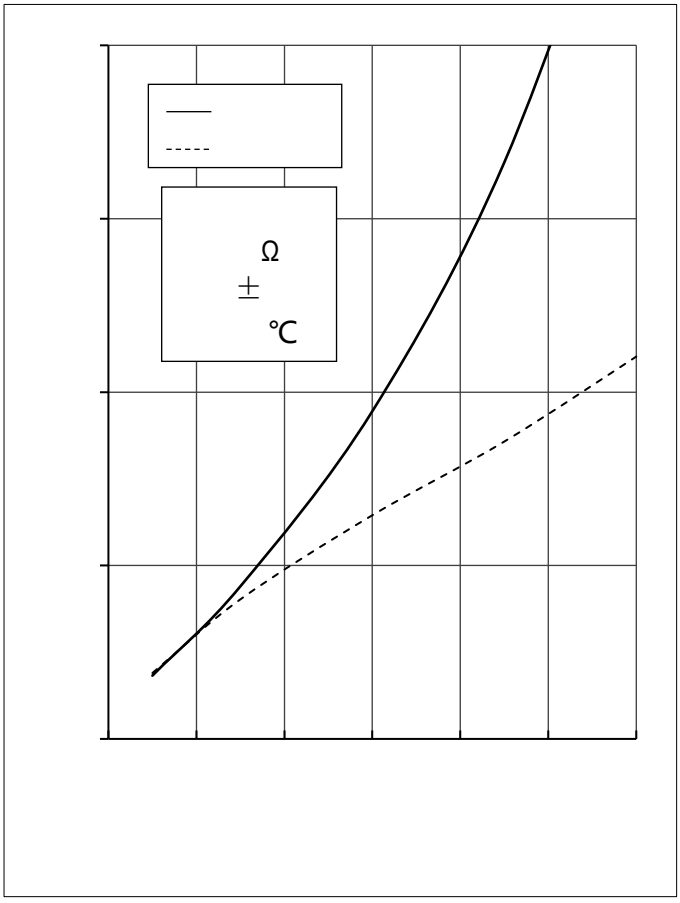
Rated Resistance	R_{25}			5.0		kΩ
Deviation of R100	R/R	T_C=100,R_{100}=493.3Ω	-5		5	%
Power Dissipation	P_{25}				20.0	mW
B-value	$B_{25/50}$	$R_2=R_{25}\exp[B_{25/50}(1/T_2-1/(298.15K))]$		3375		K

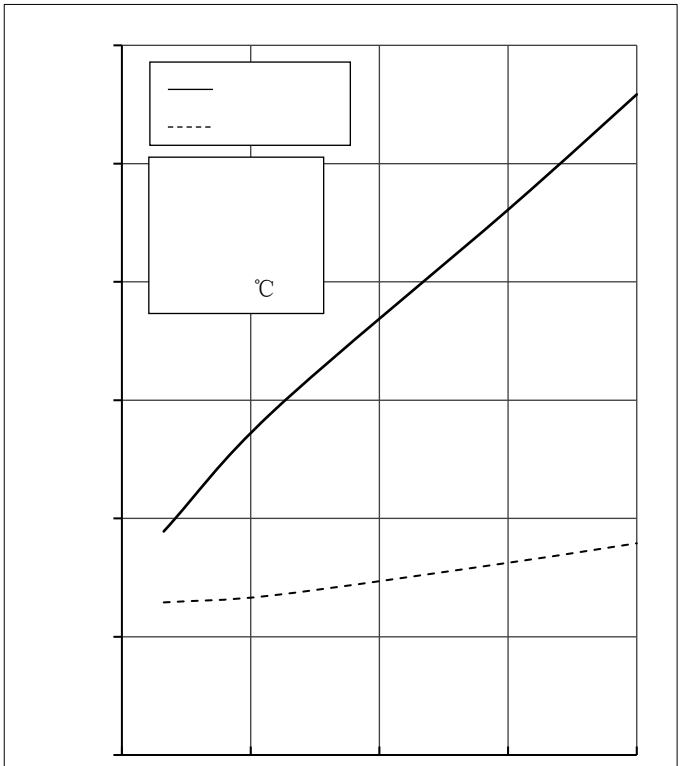
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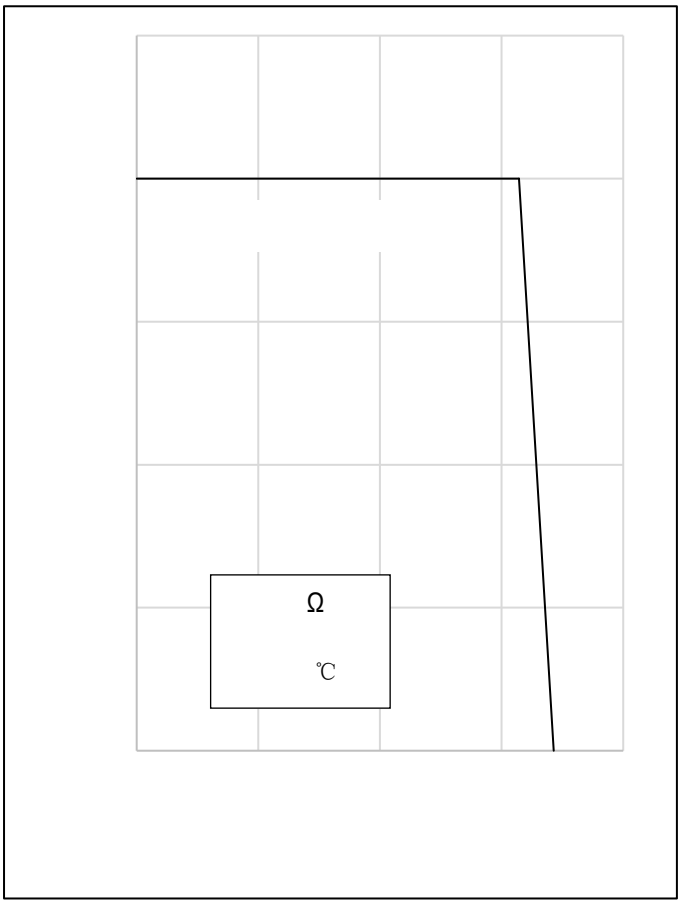
Isolation voltage	V_{isol}	t=1min,f=50Hz	2500			V
Maximum Junction Temperature	T_{jmax}				175	℃
Operating Junction Temperature	$T_{vj\ op}$		-40		150	℃
Storage Temperature	T_{stg}		-40		125	℃
Thermal Resistance Junction-to Case	$R_{\theta JC}$	per IGBT			0.09	K/W
		per Diode			0.16	
Thermal Resistance Case-to Sink	$R_{\theta CS}$	Conductive grease applied		0.009		K/W
Comparative Tracking Index	CTI		200			
Module ElectrodesTorque	M_t	Recommended(M6)	4.0		5.0	N·m
Module-to-SinkTorque	M_s	Recommended(M5)	3.0		6.0	N·m
Weight of Module	G			345		g

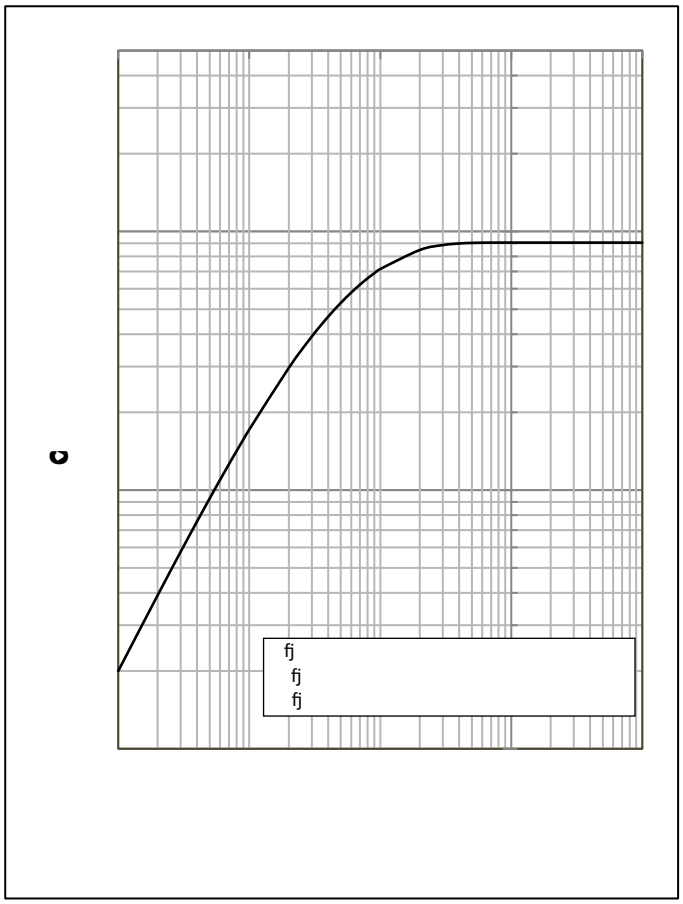

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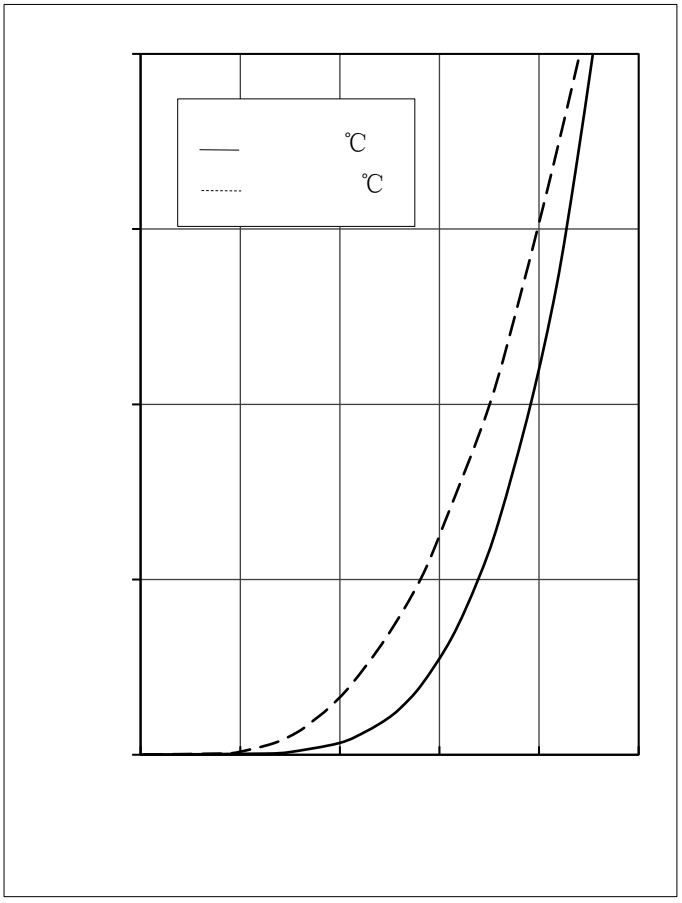

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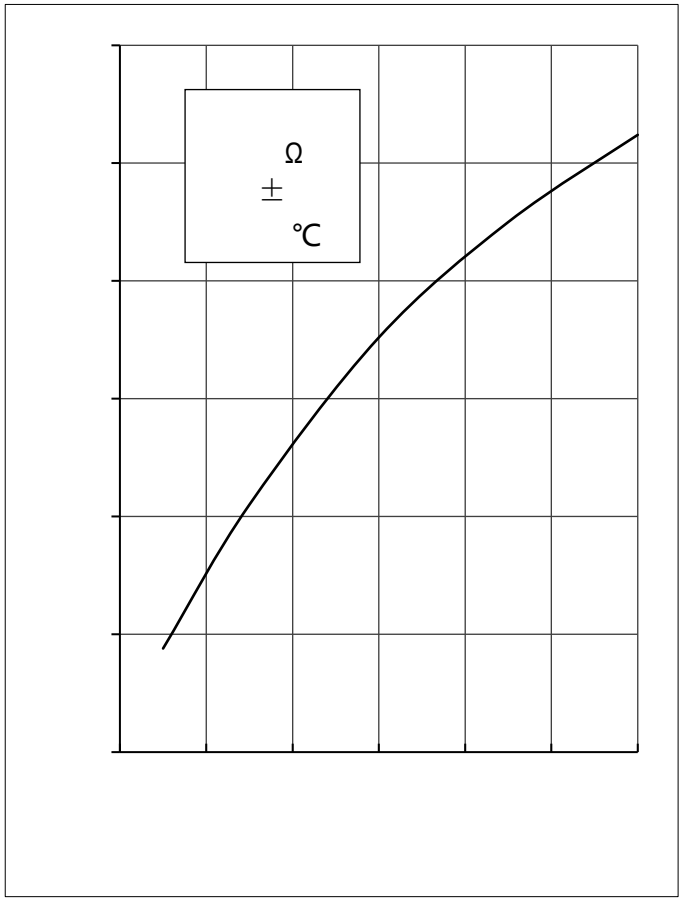

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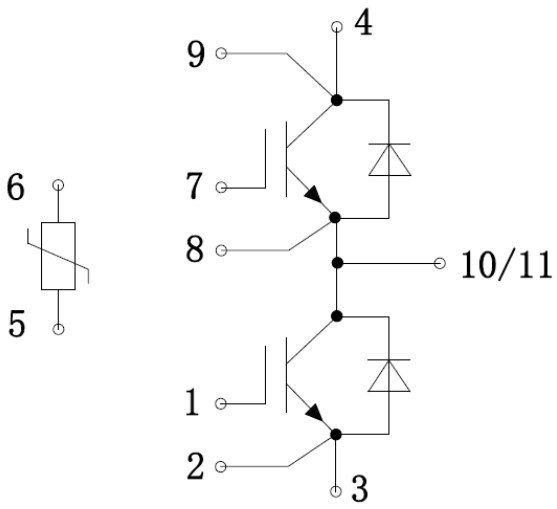

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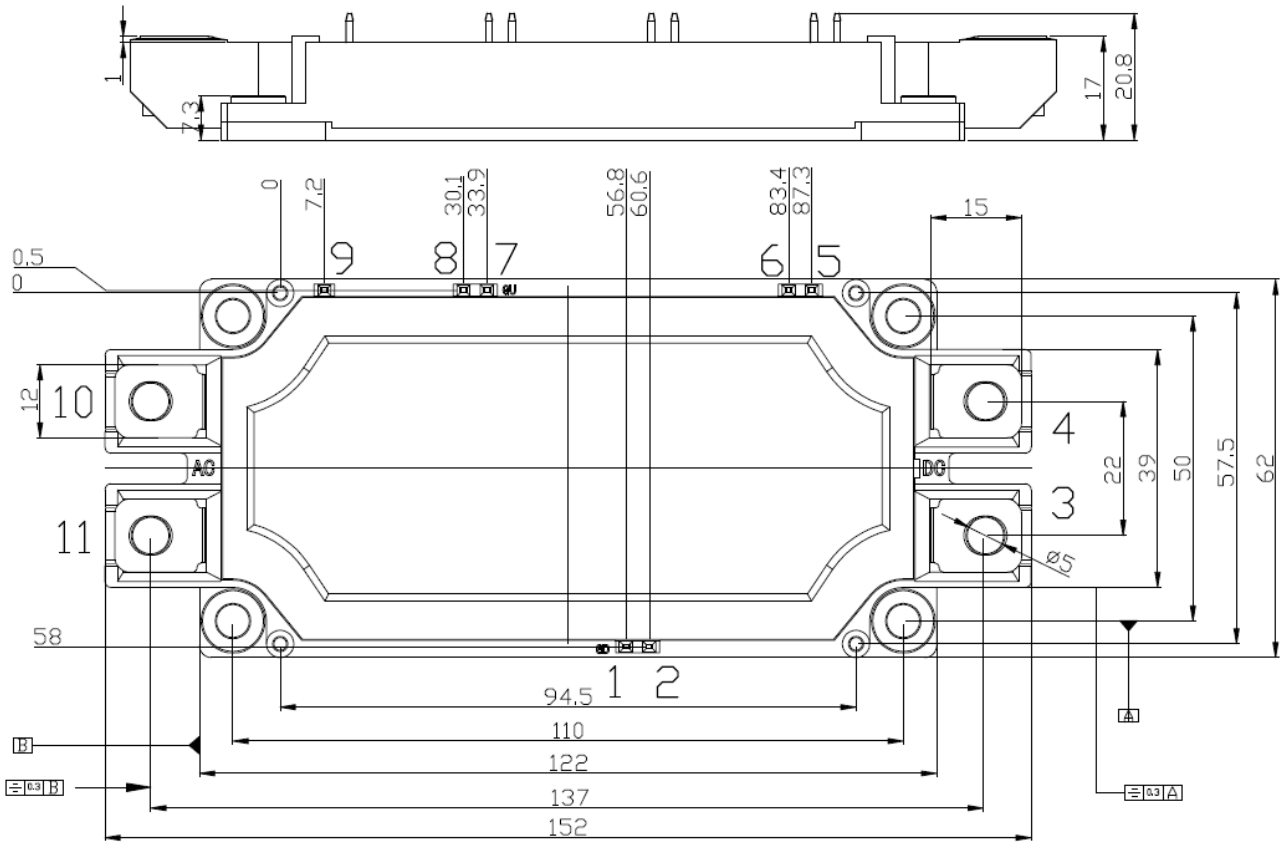

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