1200V
10A

- Motor Drivers
- AC and DC servo drive amplifier
- UPS (Uninterruptible Power Supplies)

- Low switching losses
- Low V_{CE}

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Repetitive Peak Reverse Voltage	V_{RRM}	T_{vj}=25℃	1200	V
Continuous DC Forward Current	I_F		10	A
Repetitive Peak Forward Current	I_{FRM}	t_p=1ms	20	A
I^2t-value	I^2t	V_R=0V,t_p=10ms,T_{vj}=125℃	16.0	A^2s
		V_R=0V,t_p=10ms,T_{vj}=150℃	14.0	A^2s

Forward Voltage	V_F	I_F=10A,T_{vj}=25℃		2.00	2.80	V
		I_F=10A,T_{vj}=125℃		1.85		
		I_F=10A,T_{vj}=150℃		1.80		
Recovered Charge	Q_{rr}	I_F=10A V_R=600V -di_F/dt =600A/us T_{vj}=25℃		0.27		uC
Peak Reverse Recovery Current	I_{rr}			11		A
Reverse Recovery Energy	E_{rec}			0.28		mJ
Recovered Charge	Q_{rr}	I_F=10A V_R=600V -di_F/dt =600A/us T_{vj}=150℃		0.38		uC
Peak Reverse Recovery Current	I_{rr}			12		A
Reverse Recovery Energy	E_{rec}			0.65		mJ

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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℃, T_{vjmax}=175℃	10	A
Repetitive Peak Collector Current	I_{CRM}	t_p=1ms	20	A
Gate-Emitter Voltage	V_{GES}	T_{vj}=25℃	±20	V
Total Power Dissipation	P_{tot}	T_C=25℃, T_{vjmax}=175℃	120	W

Gate-emitter Threshold Voltage	$V_{GE(th)}$	V_{GE}=V_{CE}, I_C=0.5mA,T_{vj}=25℃	5.2	6.0	6.8	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=10A,V_{GE}=15V, T_{vj}=25℃		1.85	2.60	V
		I_C=10A,V_{GE}=15V, T_{vj}=125℃		2.15		
		I_C=10A,V_{GE}=15V, T_{vj}=150℃		2.25		
Gate Charge	Q_G			0.13		uC
Input Capacitance	C_{ies}	V_{CE}=25V, V_{GE}=0V, f=1MHz, T_{vj}=25℃		0.681		nF
Reverse Transfer Capacitance	C_{res}			0.023		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=10A V_{CE}=600V V_{GE}=±15V R_G=51Ω T_{vj}=25℃		72		ns
Rise Time	t_r			33		ns
Turn-off Delay Time	$t_{d(off)}$			100		ns
Fall Time	t_f			337		ns
Energy Dissipation During Turn-on Time	E_{on}			1.16		mJ
Energy Dissipation During Turn-off Time	E_{off}			0.78		mJ

Turn-on Delay Time	$t_{d(on)}$	I_C=10A V_{CE}=600V V_{GE}=±15V R_G=51Ω T_{vj}=150℃		71		ns
Rise Time	t_r			36		ns
Turn-off Delay Time	$t_{d(off)}$			108		ns
Fall Time	t_f			410		ns
Energy Dissipation During Turn-on Time	E_{on}			1.35		mJ
Energy Dissipation During Turn-off Time	E_{off}			0.91		mJ
SC Data	I_{sc}	t_p≤10us,V_{GE}=15V,T_{vj}=150℃, V_{CC}=900V,V_{CEM}≤1200V		40		A

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Repetitive Peak Reverse Voltage	V_{RRM}	T_{vj}=25℃	1200	V
Continuous DC Forward Current	I_F		10	A
Repetitive Peak Forward Current	I_{FRM}	t_p=1ms	20	A
I^2t-value	I^2t	V_R=0V, t_p=10ms, T_{vj}=125℃		

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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		150	℃
Stray-inductance-module	L_{SCE}			60		nH
Module lead resistance, terminals-chip	$R_{CC'+EE'}$	T_C=25℃, per switch		4.0		mΩ
	$R_{AA'+CC'}$			3.0		
Thermal Resistance Junction-to Case	$R_{\theta JC}$	per IGBT-inverter		1.25		K/W
		per Diode-inverter		1.75		
		per IGBT-brake-copper		1.25		
		per Diode-chopper		1.75		
		per Diode-rectifier		2.05		
Thermal Resistance Case-to Sink	$R_{\theta CS}$	per IGBT-inverter		0.40		K/W
		per Diode-inverter		0.72		
		per IGBT-brake-copper		0.53		
		per Diode-chopper		0.77		
		per Diode-rectifier		1.10		
		per Module		0.02		
Mounting Force Per Clamp	F		3.0		6.0	N
Weight of Module	G			180		g

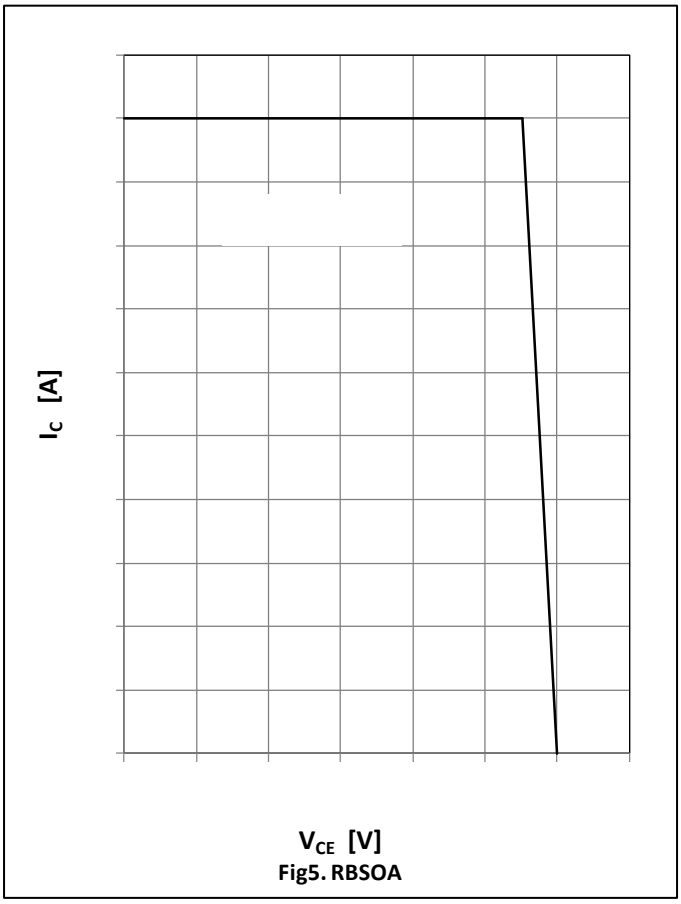


Fig5. RBSOA

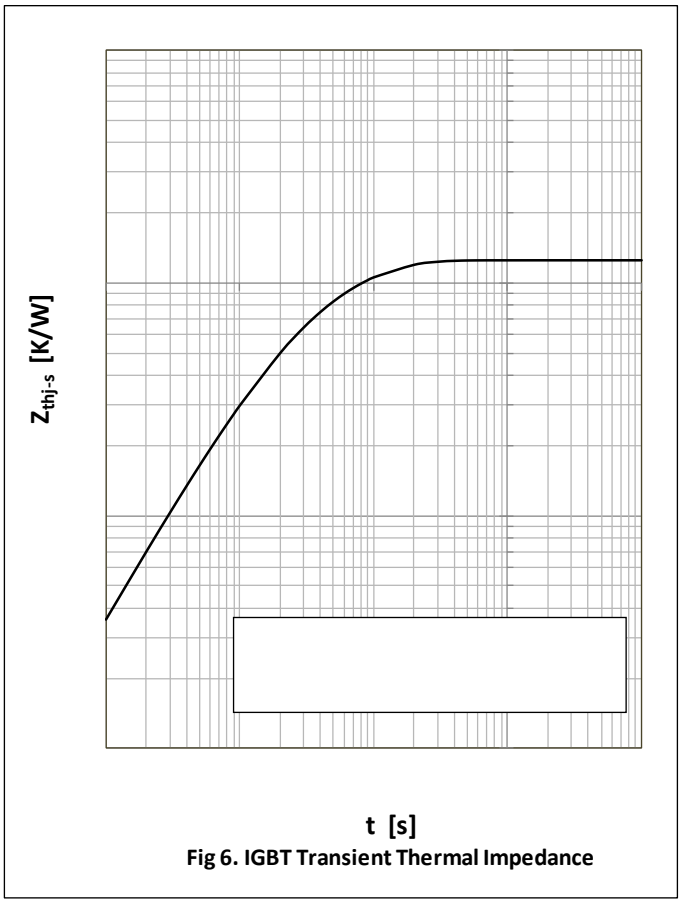


Fig 6. IGBT Transient Thermal Impedance

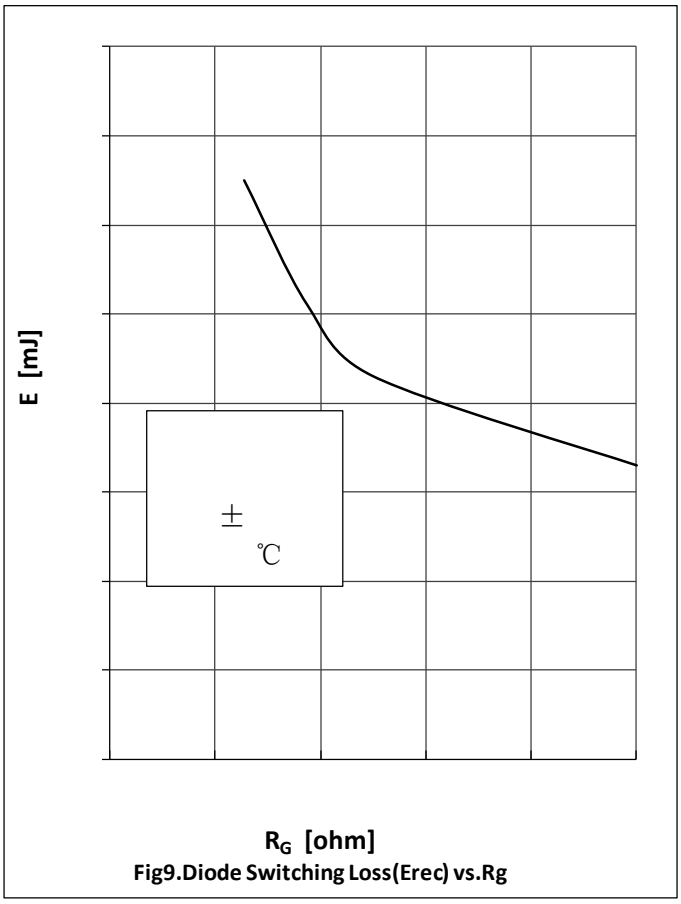


Fig9.Diode Switching Loss(Erec) vs.Rg

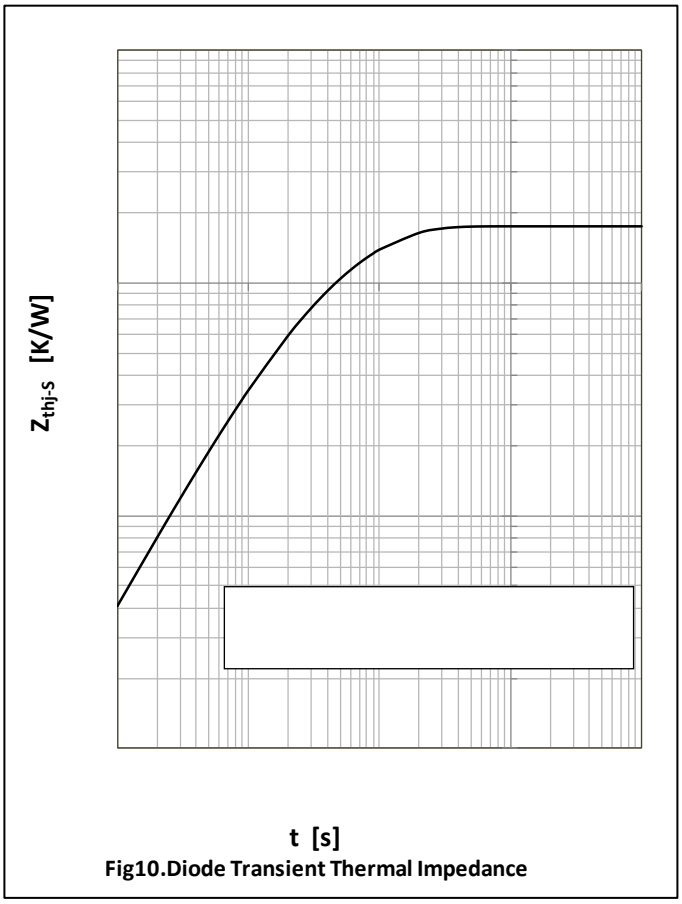


Fig10.Diode Transient Thermal Impedance

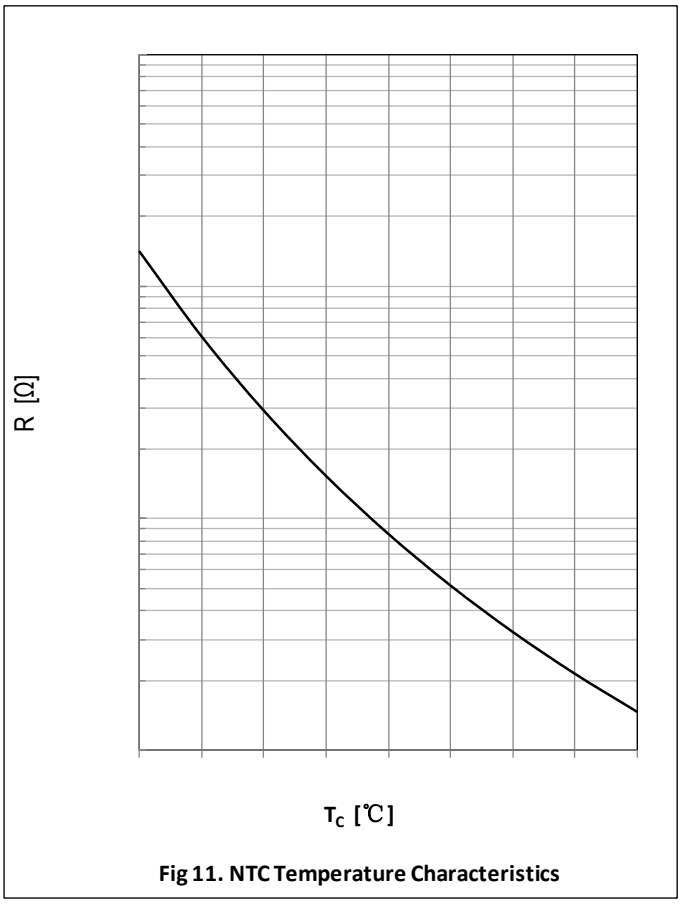


Fig 11. NTC Temperature Characteristics

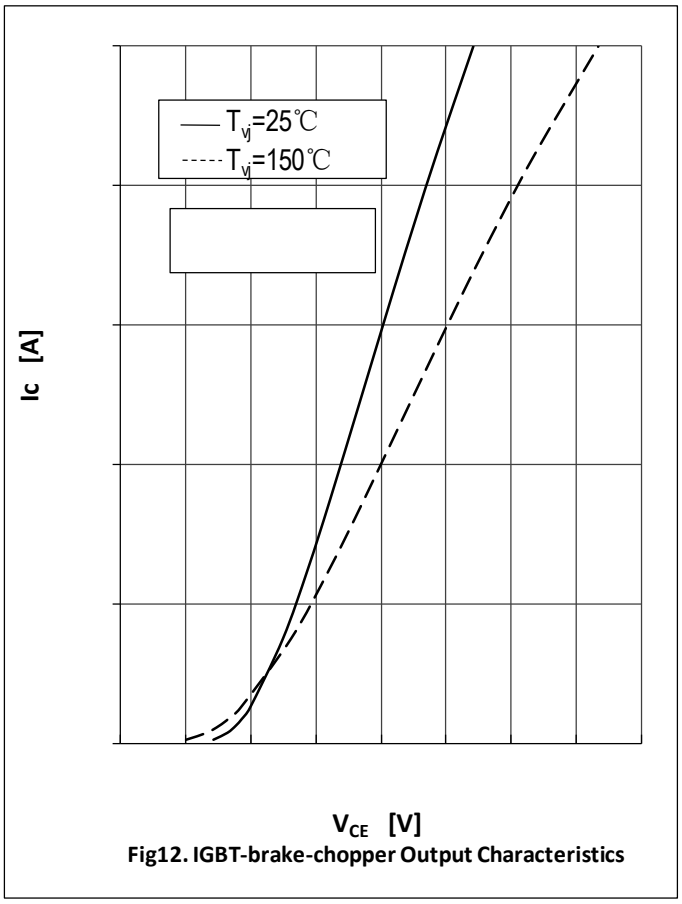


Fig12. IGBT-brake-chopper Output Characteristics

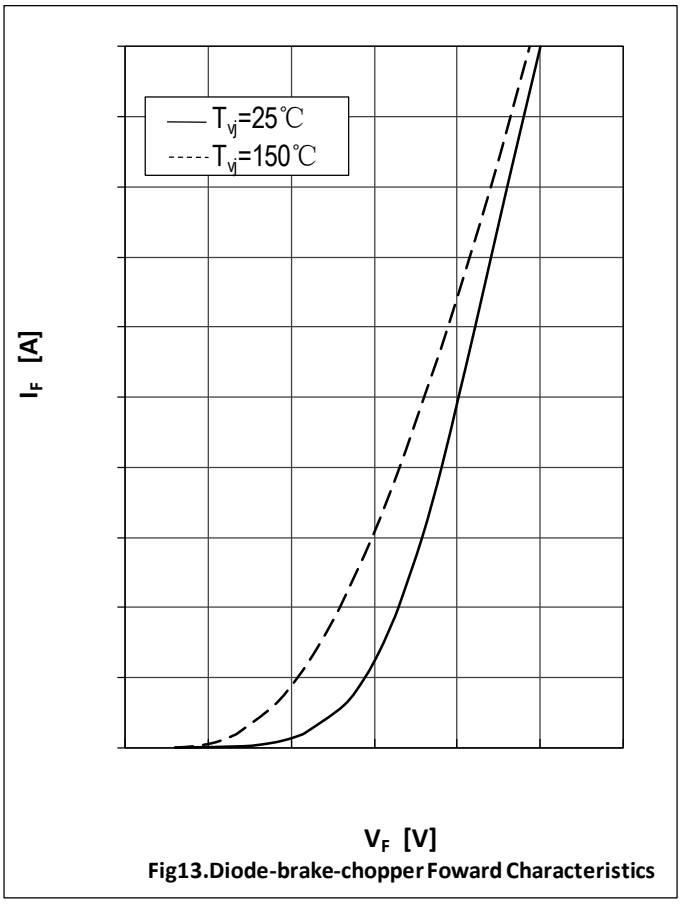
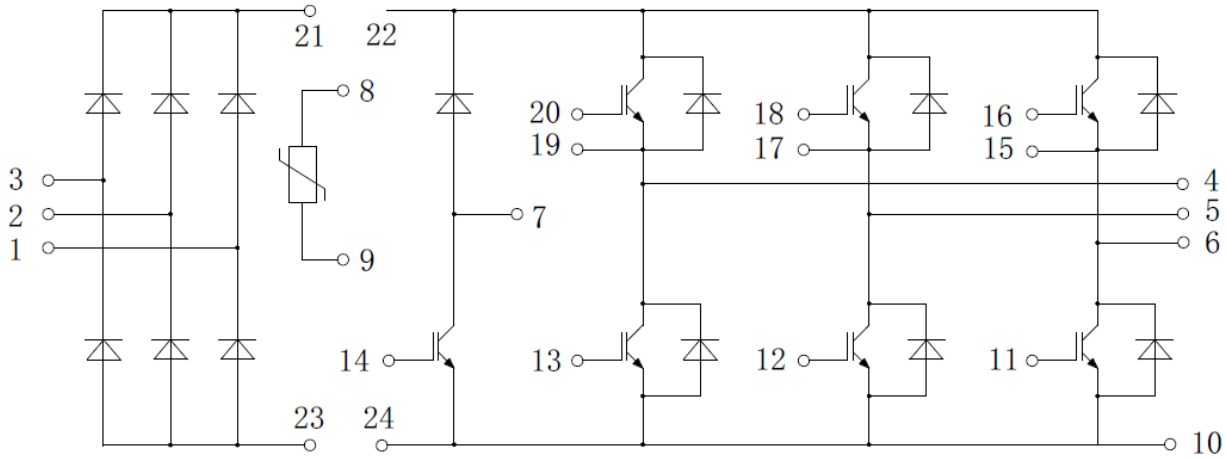
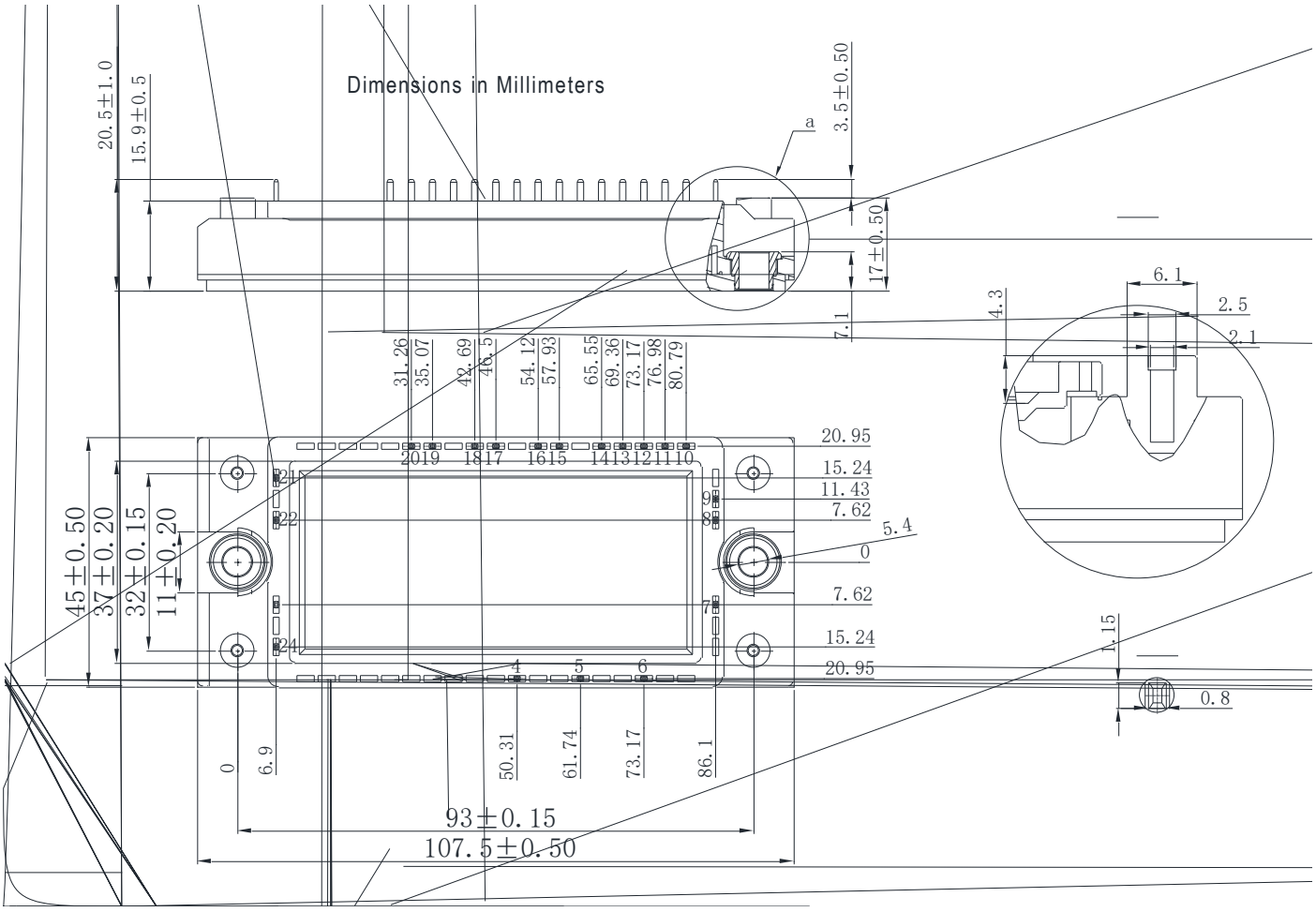


Fig13.Diode-brake-chopper Foward Characteristics


21
22
8
20
19
18
17
16
15
3
2
1
9
7
4
5
6
14
13
12
11
23
24
10


Dimensions in Millimeters
20.5±1.0
15.9±0.5
3.5±0.50
a
17±0.50
7.1
6.1
2.5
2.1
4.3
31.26
35.07
42.69
46.5
54.12
57.93
65.55
69.36
73.17
76.98
80.79
20.95
15.24
11.43
7.62
5.4
0
45±0.50
37±0.20
32±0.15
11±0.20
1.15
0.8
0
6.9
50.31
61.74
73.17
86.1
93±0.15
107.5±0.50

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