CS116160ET1

主要参数 MAIN CHARACTERISTICS

$I_{T(AV)}$	116A
V_{DRM}/ V_{RRM}	1600V
I_{GT}	150mA

用途 APPLICATIONS

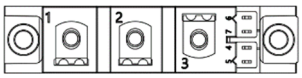
- ●直流电机控制 ●DC motor control
- ●软启动交流电机控制 ●Softstart AC motor controller
- ●光、热温度控制 ●Light, heat and temperature control

产品特性 FEATURES

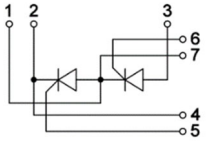
- ●台面终端芯片，高可靠性和一致性 ●Glass-passivated mesa chip for reliability and uniform
- ●环保 RoHS 产品 ●RoHS products

封装 Package

外形示意图



引脚示意图



电路示意图

订货信息 ORDER MESSAGES

订货型号 Order codes	印记 Marking	封装 Package
无卤-散装		
Halogen-Free-BolK		
CS116160ET1-ET1-FR	CS116160ET1	ET1

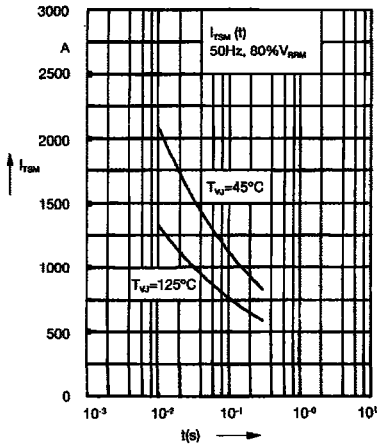
绝对最大额定值ABSOLUTE RATINGS(T_C=25℃)

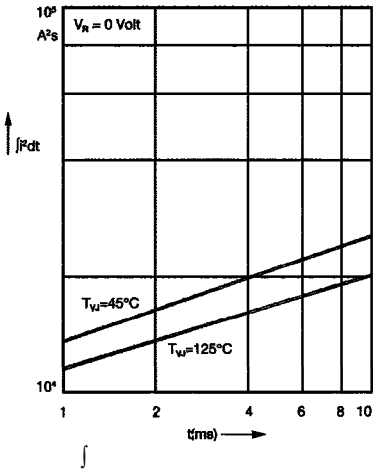
Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS}, I_{FRMS}	T_{VJ}=T_{VJM}		180	A
I_{TAVM}, I_{FAVM}	T_C=85°C; 180° sine		116	
I_{TSM}, I_{FSM}	T_{VJ}=45°C	t=10ms (50Hz), sine	2250	A
	V_R=0	t=8.3ms (60Hz), sine	2400	
	T_{VJ}=T_{VJM}	t=10ms(50Hz), sine	2000	
	V_R=0	t=8.3ms(60Hz), sine	2150	
$\int i^2dt$	T_{VJ}=45°C	t=10ms (50Hz), sine	25300	A^2s
	V_R=0	t=8.3ms (60Hz), sine	23900	
	T_{VJ}=T_{VJM}	t=10ms(50Hz), sine	20000	
	V_R=0	t=8.3ms(60Hz), sine	19100	
$(di/dt)_{cr}$	T_{VJ}=T_{VJM}	repetitive, I_T=250A	150	A/us
	f=50Hz, t_p=200us			
	V_D=2/3V_{DRM}			
	I_G=0.45A	non repetitive, I_T=I_{TAVM}	500	
	di_G/dt=0.45A/us			
$(dv/dt)_{cr}$	T_{VJ}=T_{VJM};	V_{DR}=2/3V_{DRM}	1000	V/us
	R_{GK}= ; method 1 (linear voltage rise)			
P_{GM}	T_{VJ}=T_{VJM}	t_p=30us	10	W
	I_T=I_{TAVM}	t_p=300us	5	
P_{GAV}			0.5	W
V_{RGM}			10	V
T_{VJ}			-40...+125	°C
T_{VJM}			125	
T_{stg}			-40...+125	
V_{ISOL}	50/60Hz, RMS	t=1min	3000	V~
	I_{ISOL}≤1mA	t=1s	3600	
M_d	Mounting torque (M5)		2.5-4.0/22-35	Nm/lb.in.
	Terminal connection torque (M5)		2.5-4.0/22-35	
Weight	Typical including screws		82	g

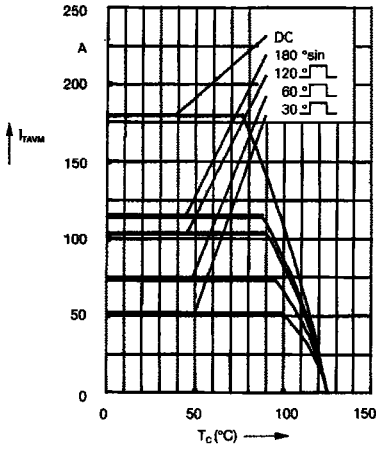
电特性 ELECTRICAL CHARACTERISTIC (T_C=25℃)

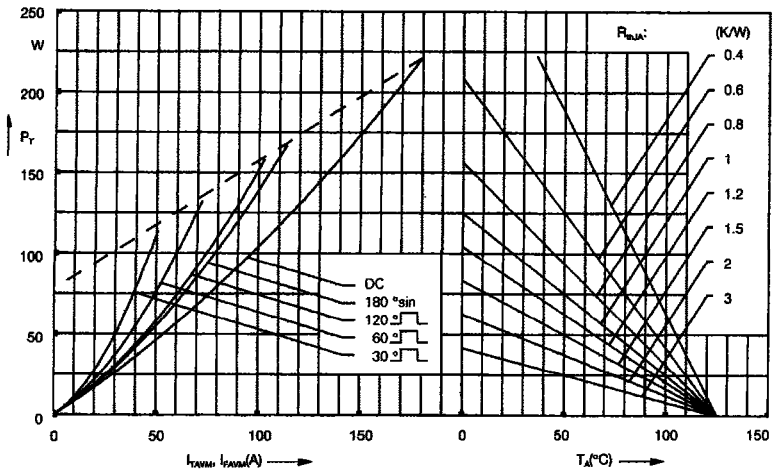
Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}, I_{DRM}	T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}	20	mA
V_T, V_F	I_T, I_F=300A; T_{VJ}=25°C	1.65	V
V_{TO}	For power-loss calculations only (T_{VJ}=125°C)	0.8	V
r_T		2.4	m
V_{GT}	V_D=6V; T_{VJ}=25°C T_{VJ}=-40°C	2.5 2.6	V
I_{GT}	V_D=6V; T_{VJ}=25°C T_{VJ}=-40°C	150 200	mA
V_{GD}	T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}	0.2	V
I_{GD}		10	mA
I_L	T_{VJ}=25°C; t_p=10us; V_D=6V I_G=0.45A; di_G/dt=0.45A/us	450	mA
I_H	T_{VJ}=25°C; V_D=6V; R_{GK}=	200	mA
t_{gd}	T_{VJ}=25°C; V_D=1/2V_{DRM} I_G=0.45A; di_G/dt=0.45A/us	2	us
t_q	T_{VJ}=T_{VJM}; I_T=150A; t_p=200us; -di/dt=10A/us typ. V_R=100V; dv/dt=20V/us; V_D=2/3V_{DRM}	185	us
Q_S	T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=6A/us	170	uC
I_{RM}		45	A
R_{thJC}	per thyristor/diode; DC current per module	0.22 0.11	K/W
R_{thJK}	per thyristor/diode; DC current per module	0.42 0.21	K/W
d_S	Creeping distance on surface	12.7	mm
d_A	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s^2

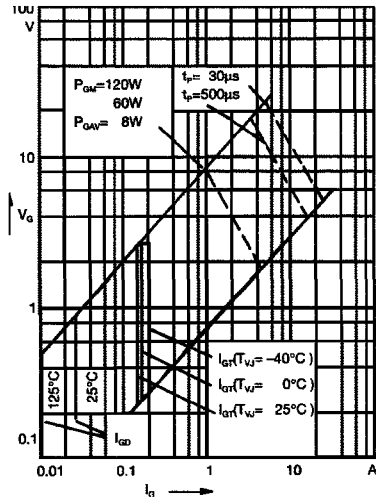
特征曲线ELECTRICAL CHARACTERISTICS (curves)

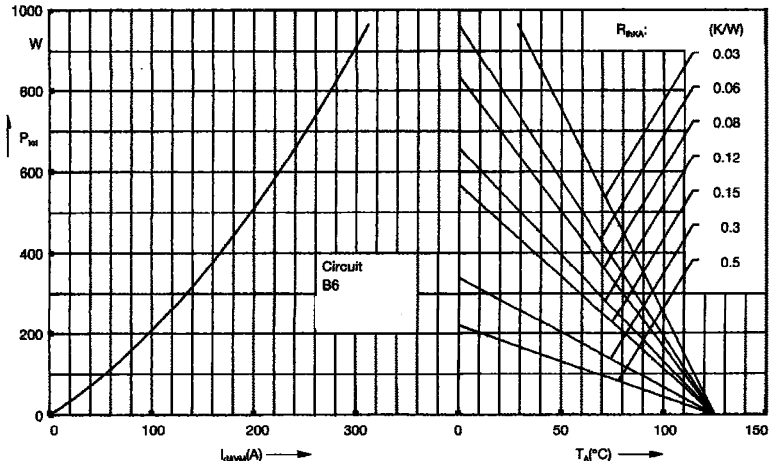


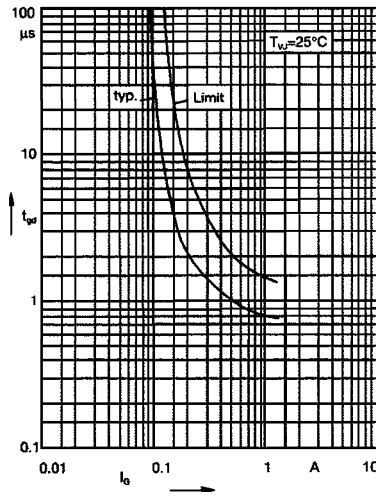












特征曲线ELECTRICAL CHARACTERISTICS (curves)

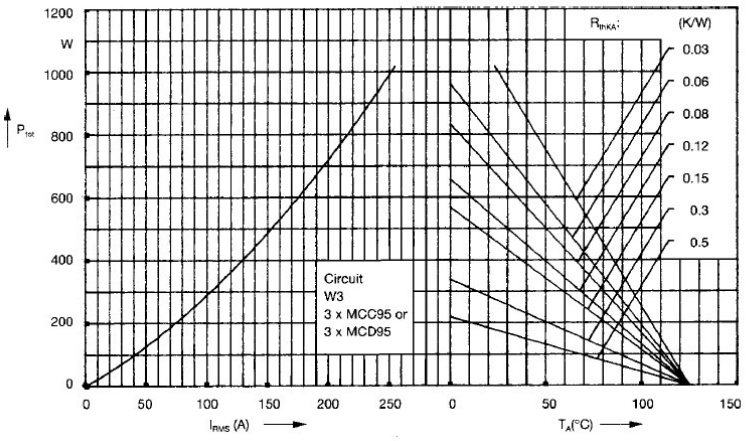


Fig. 7 Three phase AC-controller: Power dissipation versus RMS output current and ambient temperature

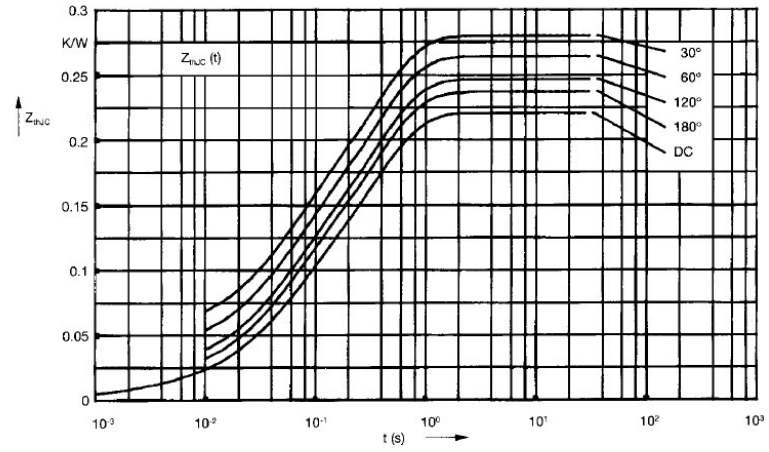


Fig. 8 Transient thermal impedance junction to case (per thyristor or diode)

R_{thJC} for various conduction angles d:

d	R_{thJC} (K/W)
DC	0.22
180°	0.23
120°	0.25
60°	0.27
30°	0.28

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.0066	0.0019
2	0.0678	0.0477
3	0.1456	0.344

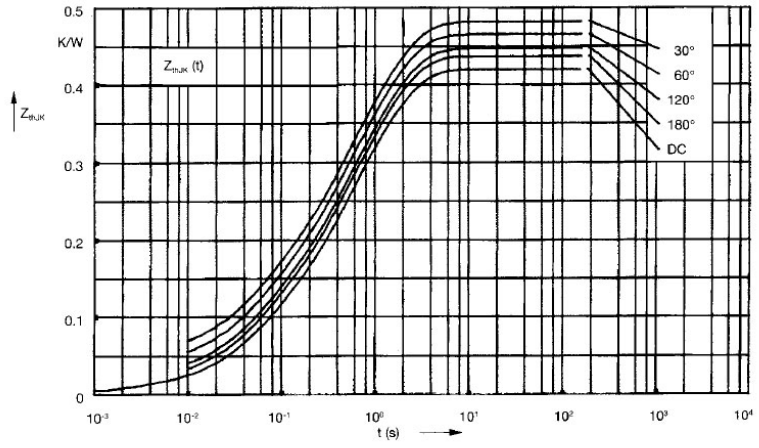


Fig. 9 Transient thermal impedance junction to heatsink (per thyristor or diode)

R_{thJK} for various conduction angles d:

d	R_{thJK} (K/W)
DC	0.42
180°	0.43
120°	0.45
60°	0.47
30°	0.48

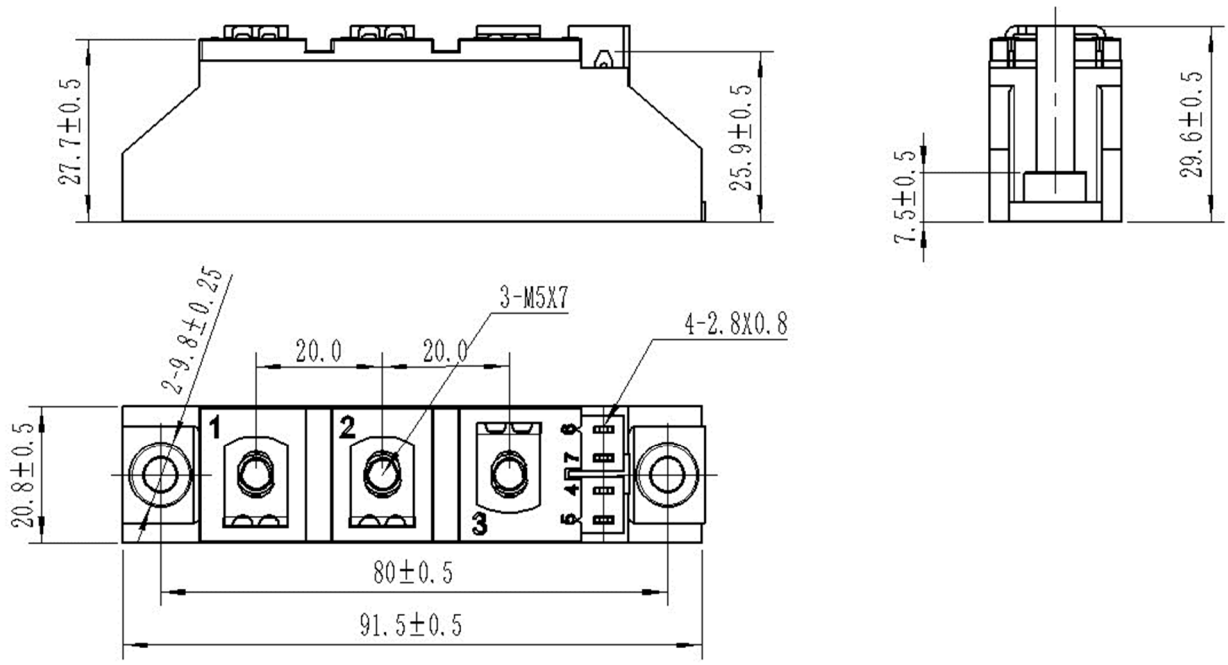
Constants for Z_{thJK} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.0066	0.0019
2	0.0678	0.0477
3	0.1456	0.344
4	0.2	1.32

外形尺寸 PACKAGE MECHANICAL DATA

ET1

单位 Unit ： mm



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