

CS1215M1H

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	12A
V_{DRM}/V_{RRM}	800V
I_{GT}	2-10mA
T_{jmax}	150 °C

用途

- 半交流开关
- 相位控制

APPLICATIONS

- Half AC switching
- Phase control

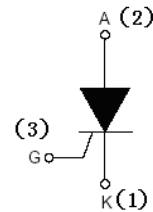
产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 低通态电流和高浪涌电流能力
- 环保 RoHS 产品

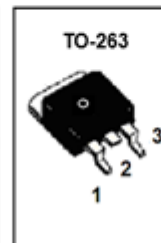
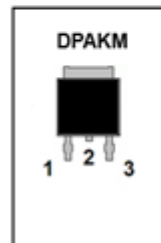
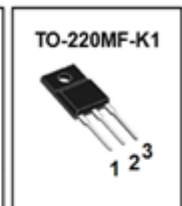
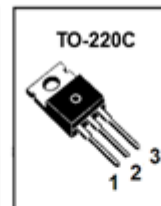
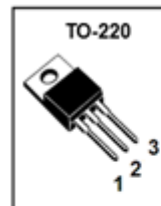
FEATURES

- Glass-passivated mesa chip for reliability and uniform
- Low on-state voltage and High I_{TSM}
- RoHS products

封装 Package



序号 Pin	引线名称 Description
1	阴极 K
2	阳极 A
3	门极 G



**订货信息 ORDER MESSAGE**

订货型号 Order codes				印记 Marking	封装 Package
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装	CS1215 M1H	TO-220
Halogen-Tube	halogen-Free-Tube	Halogen- Bag	Halogen-Free-Bag		
CS1215M1H -CA-B	CS1215M1H -CA-BR	CS1215M1H -CA-C	CS1215M1H -CA-CR		
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装	CS1215 M1H	TO-220C
Halogen-Tube	halogen-Free-Tube	Halogen- Bag	Halogen-Free-Bag		
CS1215M1H -C-B	CS1215M1H -C-BR	CS1215M1H -C-C	CS1215M1H -C-CR		
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装	CS1215 M1H	TO-220 MF-K1
Halogen-Tube	halogen-Free-Tube	Halogen- Bag	Halogen-Free-Bag		
CS1215M1H -F1-B	CS1215M1H -F1-BR	CS1215M1H -F1-C	CS1215M1H -F1-CR		
有卤-条管	无卤-条管	有卤-编带	无卤-编带	CS1215 M1H	TO-263
Halogen-Tube	halogen-Free-Tube	Halogen-Reel	Halogen-Free-Reel		
CS1215M1H -S-B	CS1215M1H -S-BR	CS1215M1H -S-A	CS1215M1H -S-AR		
有卤-编带	无卤-编带	有卤-袋装	无卤-袋装	CS1215 M1H	DPAKM
Halogen-Reel	Halogen-Free-Reel	Halogen- Bag	Halogen-Free-Bag		
CS1215M1H -RM-A	CS1215M1H -RM-AR	CS1215M1H -RM-C	CS1215M1H -RM-CR		





绝对最大额定值 ABSOLUTE RATINGS (Tc=25°C)

项 目 Parameter	符 号 Symbol	数 值 Value	单 位 Unit
断态重复峰值电压 Repetitive peak off-state voltage	V _{DRM}	800	V
反向重复峰值电压 Repetitive peak reverse voltage	V _{RRM}	800	V
通态平均电流 Average on-state current (half sine wave)	I _{T(AV)}	7.5	A
通态方均根电流 On-state RMS current (all conduction angles)	I _{T(RMS)}	12	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current (half sine wave ,t=10ms)	I _{TSM}	110	A
I ² t for fusing (t=10ms)	I ² t	60	A ² s
门极峰值电流 Peak gate current	I _{GM}	2	A
门极峰值电压 Peak gate voltage	V _{GM}	5	V
反向门极峰值电压 Peak reverses gate voltage	V _{RGM}	5	V
门极峰值功率 Peak gate power	P _{GM}	5	W
门极平均功率 Average gate power (over any 20ms period)	P _{G(AV)}	0.5	W
存储温度 Storage temperature	T _{stg}	-40~150	°C
操作结温 Operation junction temperature	T _J	150	°C

静态特性 STATIC CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise stated)

项 目 Parameter	符 号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
断态峰值重复电流 Peak Repetitive Blocking Current	I_{DRM}	$V_{DM}=V_{DRM(MAX)}$, $T_j=150^\circ\text{C}$	-	-	5.0	mA
反向峰值重复电流 Peak Repetitive Reverse Current	I_{RRM}	$V_{RM}=V_{RRM(MAX)}$, $T_j=150^\circ\text{C}$	-	-	5.0	mA
峰值通态电压 Peak on-state voltage	V_{TM}	$I_{TM}=23\text{A}$	-	1.40	1.75	V
门极触发电流 Gate trigger current	I_{GT}	$V_{DM}=12\text{V}, I_T=0.1\text{A}$	2	4	10	mA
门极触发电压 Gate trigger voltage	V_{GT}	$V_{DM}=12\text{V}, I_T=0.1\text{A}$	-	0.8	1.5	V
维持电流 Holding current	I_H	$V_{DM}=12\text{V}, I_{GT}=0.1\text{A}$	-	-	25	mA
擎住电流 Latching current	I_L	$V_{DM}=12\text{V}, I_{GT}=0.1\text{A}$	-	-	40	mA

动态特性 DYNAMIC CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise stated)

项 目 Parameter	符 号 Symbol	测试条件 Tests conditions	最小 min	典型 typ	最大 max	单位 Unit
断态临界电压上升率 Critical rate of rise of off- state voltage	dV/dt	$V_{DM}=67\% V_{DRM(MAX)}$, $T_j=150^\circ\text{C}$	300	-	-	V/ μs

热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	值 value	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	TO-220(C)\TO-263\TO-262	1.3 max	$^\circ\text{C}/\text{W}$
	DPAKM/ DPAK	1.8 max	
	TO-220MF-K1	4.1 max	
结到环境的热阻 Thermal resistance junction to ambient (half cycle)	$R_{th(j-a)}$	60 typ	

电绝缘特性 ELECTRICAL ISOLATION

项 目 Parameter	符 号 Symbol	测试条件 Tests conditions	数 值 Value	单位 Unit
绝缘电压 Isolation voltage	V_{ISOL}	1 minute, leads to mounting tab TO-220MF-K1	2000	V



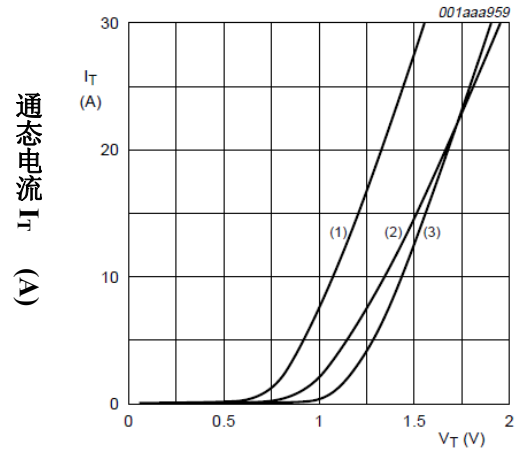
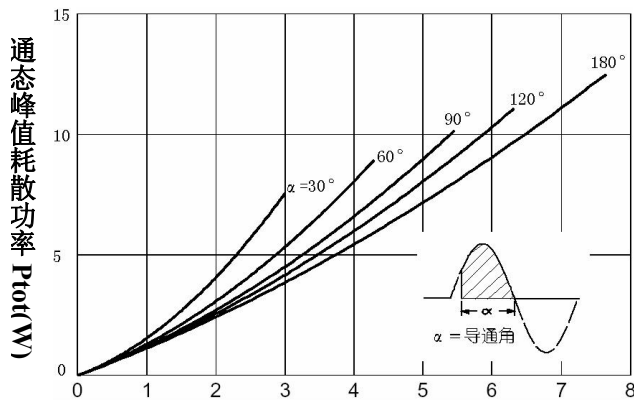
特征曲线 ELECTRICAL CHARACTERISTICS (curves)

通态平均电流 $I_T(AV)$ (A)

通态电压 V_{TM} (V)

Pt- $I_T(AV)$

$I_T - V_{TM}$

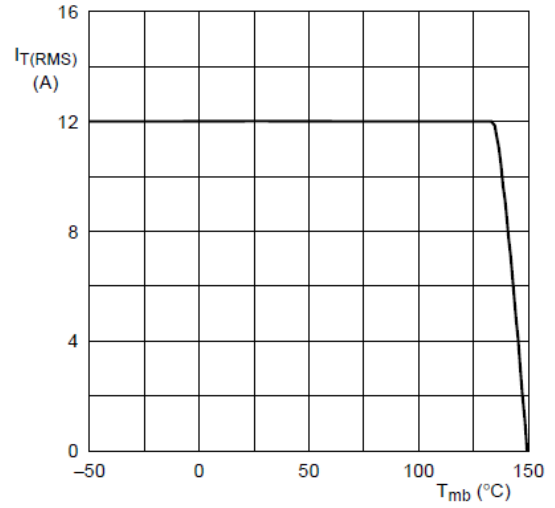
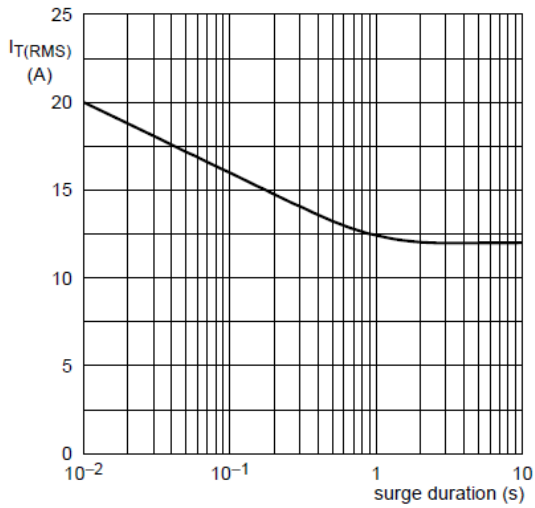


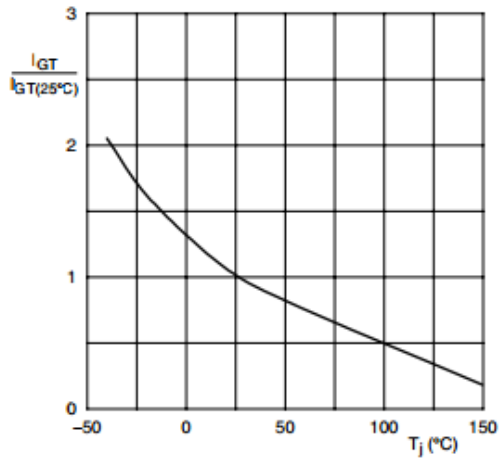
$V_o = 1.06 V$

$R_s = 0.0304 \Omega$

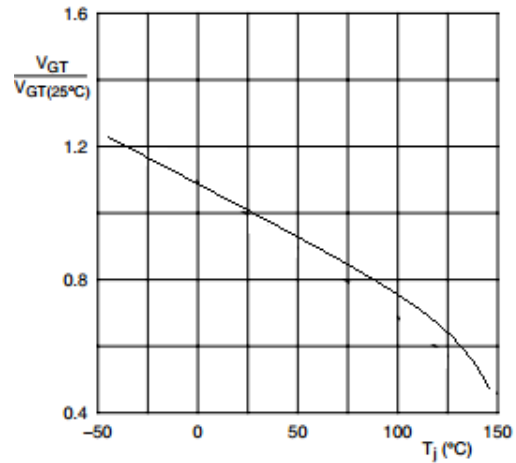
- (1) $T_j = 150 \text{ }^\circ\text{C}$; typical values
- (2) $T_j = 150 \text{ }^\circ\text{C}$; maximum values
- (3) $T_j = 25 \text{ }^\circ\text{C}$; maximum values

Non-repetitive peak on-state current as a function of pulse width for sinusoidal currents; maximum values

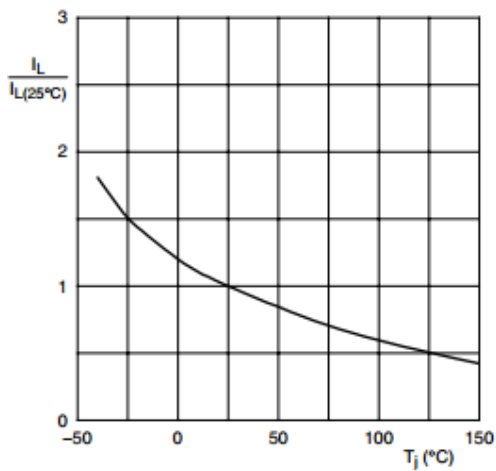




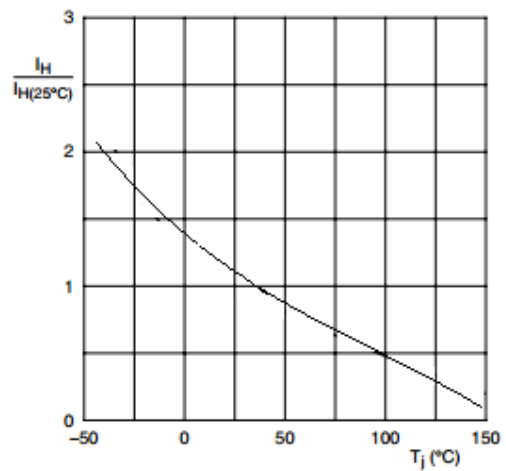
Normalized gate trigger current as a function of junction temperature



Normalized gate trigger voltage as a function of junction temperature



Normalized latching current as a function of junction temperature

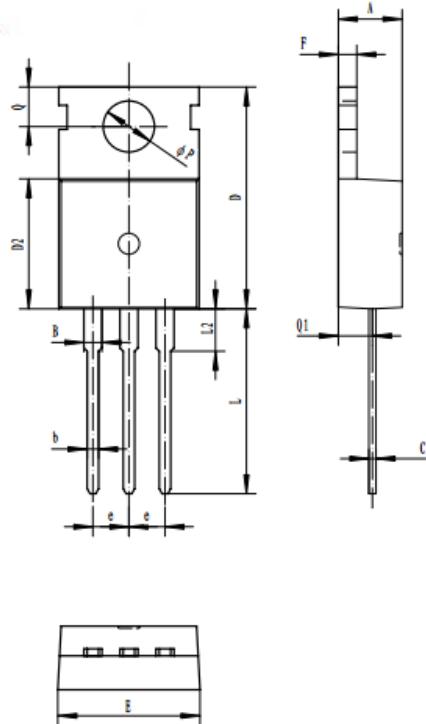


Normalized holding current as a function of junction temperature

外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

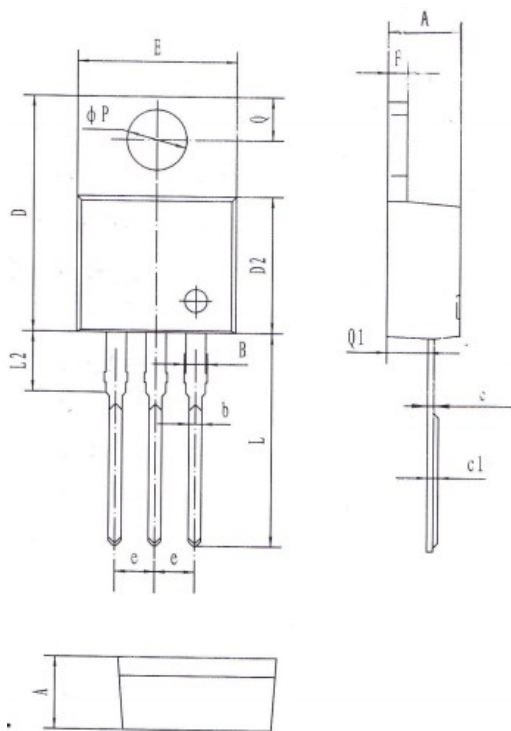
单位 Unit : mm



A	4.30-4.70
B	1.22-1.40
b	0.70-0.95
c	0.40-0.65
D	15.2-16.2
D2	9.00-9.40
E	9.70-10.10
e	2.39-2.69
F	1.25-1.40
L	12.60-13.60
L2	2.80-3.20
Q	2.60-3.00
Q1	2.20-2.60
P	3.50-3.80

TO-220

单位 Unit : mm

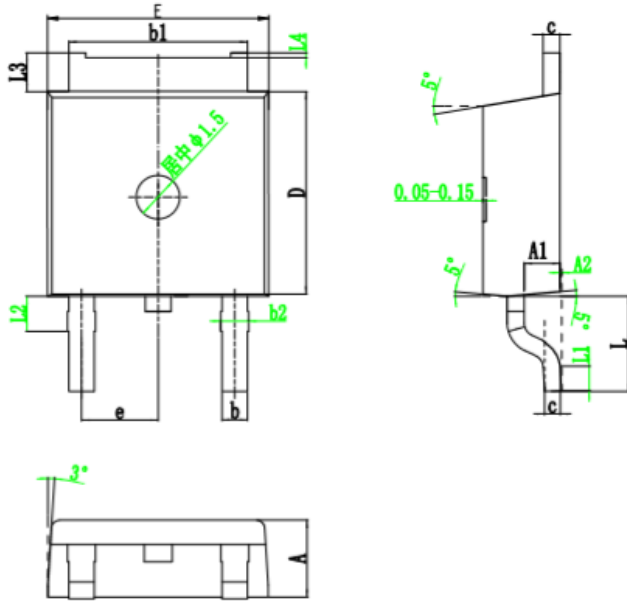


A	4.40-4.80
B	1.10-1.40
b	0.70-0.95
c	0.28-0.48
c1	0.32-0.52
D	14.45-16.00
D2	8.20-9.20
E	9.60-10.40
e	2.39-2.69
F	1.20-1.35
L	13.05-14.05
L2	3.70-3.90
Q	2.40-3.00
Q1	2.20-2.90
P	3.50-4.00



DPAKM

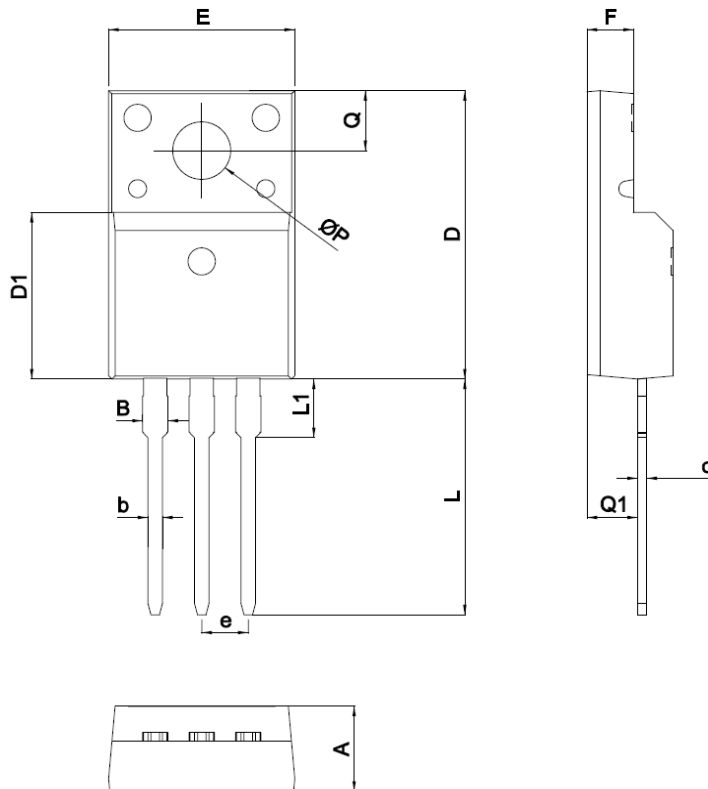
单位 Unit : mm



SYMBOL	mm		
	MIN	NOM	MAX
A	2.20	2.30	2.40
A1	0.90	1.00	1.10
A2	0.00		0.10
b	0.71	0.81	0.91
b1	5.20	5.30	5.40
b2	0.85	0.95	1.05
c	0.47	0.508	0.55
D	6.00	6.15	6.30
E	6.45	6.60	6.75
e	2.186	2.286	2.386
L	2.50	2.70	2.90
L1	0.95	1.15	1.35
L2	1.90	2.00	2.10
L3	0.868	0.968	1.068
L4	0.05	0.1	0.15

TO-220MF-K1

单位 Unit : mm



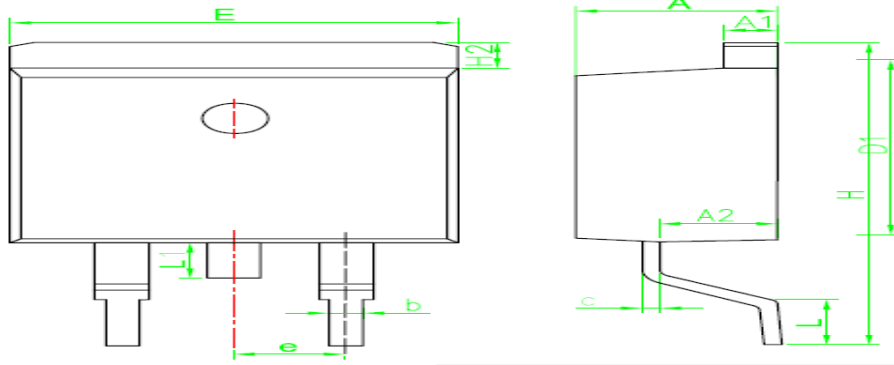
SYMBOL	mm	
	MIN	MAX
A	4.5	4.9
B	1.22	1.47
b	0.7	0.9
c	0.45	0.60
D	15.6	16.1
D1	9.0	9.3
e	2.54TYPE	
E	9.9	10.4
F	2.3	2.8
L	12.6	13.3
L1	3.1	3.4
Q	3.2	3.4
Q1	2.6	2.9
ΦP	3.0	3.5



TO-263

CS1215M1H

单位 Unit : mm



SYMBOL	MM	
	MIN	MAX
A	4.30	4.80
A1	1.12	1.42
A2	2.54	2.84
b	0.67	1.00
c	0.29	0.52
D1	8.40	9.00
E	9.80	10.46
e	2.54BSC	
H	14.00	16.00
H2	1.12	1.45
L	1.50	3.10
L1	1.45	1.70



注意事项

1. 吉林华微电子股份有限公司的产品销售分为直销和销售代理，无论哪种方式，订货时请与公司核实。
2. 购买时请认清公司商标，如有疑问请与公司本部联系。
3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知。

NOTE

1. Jilin Sino-microelectronics co., Ltd sales its product either through direct sales or sales agent , thus, for customers, when ordering , please check with our company.
2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this. specification sheet and is subject to change without prior notice.

联系方式

吉林华微电子股份有限公司

公司地址：吉林省吉林市深圳街 99 号

邮编：132013

总机：86-432-64678411

传真：86-432-64665812

网址：www.hwdz.com.cn

CONTACT

JILIN SINO-MICROELECTRONICS CO., LTD.

ADD: No.99 Shenzhen Street, Jilin City, Jilin Province, China.

Post Code: 132013

Tel: 86-432-64678411

Fax: 86-432-64665812

Web Site: www.hwdz.com.cn