



# CS1210N4A

## 主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	12A
$V_{DRM}$	800V
$I_{GT}$	10mA

## 用途

- 交流开关
- 相位控制

## APPLICATIONS

- AC switching
- Phase control

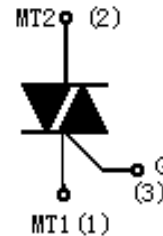
## 产品特性

- 玻璃钝化芯片高可靠性、一致性
- 低通态电压和高浪涌电流能力
- 环保 RoHS 产品

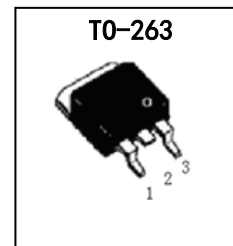
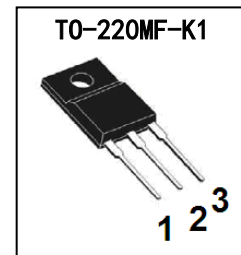
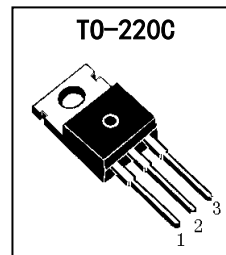
## FEATURES

- 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	主电极 1 MT1
2	主电极 2 MT2
3	门极 G



## 订货信息 ORDER MESSAGES

订货型号 Order codes				印 记 Marking	封 装 Package
有卤-条管	无卤-条管	有卤-编带	无卤-编带		
Halogen-Tube	Halogen-Free-Tube	Halogen-Reel	Halogen-Free-Reel		
CS1210N4A-C-B	CS1210N4A-C-BR	N/A	N/A	CS1210N4A	TO-220C
CS1210N4A-F1-B	CS1210N4A-F1-BR	N/A	N/A	CS1210N4A	TO-220MF-K1
CS1210N4A-S-B	CS1210N4A-S-BR	CS1210N4A-S-A	CS1210N4A-S-AR	CS1210N4A	TO-263



绝对最大额定值 ABSOLUTE RATINGS ( $T_c=25^\circ\text{C}$ )

项 目 Parameter	符 号 Symbol	试 验 条 件 Condition	数 值 Value	单 位 Unit
重复峰值断态电压 Repetitive peak off-state voltage	$V_{\text{DRM}}$		$\pm 800$	V
通态方均根电流 On-state RMS current	$I_{\text{T(RMS)}}$	full sine wave	12	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	$I_{\text{TSM}}$	full sine wave ,t=20ms	95	A
		full sine wave ,t=16.7ms	105	A
		$I^2t$	t=10ms	45
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	$di/dt$	$I_{\text{TM}}=20\text{A}$ , $I_{\text{G}}=0.2\text{A}$ , $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$	50	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	$I_{\text{GM}}$		2	A
峰值门极电压 Peak gate voltage	$V_{\text{GM}}$		5	V
峰值门极功率 Peak gate power	$P_{\text{GM}}$		5	W
平均门极功率 Average gate power	$P_{\text{G(AV)}}$	over any 20ms period	0.5	W
存储温度 Storage temperature	$T_{\text{stg}}$		-40~150	$^\circ\text{C}$
操作结温 Operation junction temperature	$T_{\text{VJ}}$		125	$^\circ\text{C}$



电特性 ELECTRICAL CHARACTERISTIC (T<sub>c</sub>=25°C)

项 目 Parameter	符 号 Symbol	测 试 条 件 Condition		最小 Min	典型 Typ	最大 Max	单位 Unit
峰值重复断态电流 Peak Repetitive Blocking Current	I <sub>DRM</sub>	V <sub>DM</sub> =V <sub>DRM</sub> , T <sub>j</sub> =125°C, gate open		-	-	0.8	mA
峰值通态电压 Peak on-state voltage	V <sub>TM</sub>	I <sub>TM</sub> =15A		-	1.4	1.65	V
门极触发电流 Gate trigger current	I <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100Ω	MT1(-),MT2(+),G(+)	-	2.5	10	mA
			MT1(-),MT2(+),G(-)	-	4.0	10	mA
			MT1(+),MT2(-),G(-)	-	5.0	10	mA
			MT1(+),MT2(-),G(+)	-	11	25	mA
门极触发电压 Gate trigger voltage	V <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100Ω	MT1(-),MT2(+),G(+)	-	-	1.5	V
			MT1(-),MT2(+),G(-)	-	-	1.5	V
			MT1(+),MT2(-),G(-)	-	-	1.5	V
			MT1(+),MT2(-),G(+)	-	-	1.5	V
维持电流 Holding current	I <sub>H</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A		-	4.0	30	mA
擎住电流 Latching current	I <sub>L</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A	MT1(-),MT2(+),G(+)	-	3.2	25	mA
			MT1(-),MT2(+),G(-)	-	16	35	mA
			MT1(+),MT2(-),G(-)	-	4.0	25	mA
断态临界电压上升率 Rise of off- state voltage	dV/dt	V <sub>DM</sub> =67% V <sub>DRM(MAX)</sub> , T <sub>j</sub> =125°C, gate open		-	50	-	V/μs

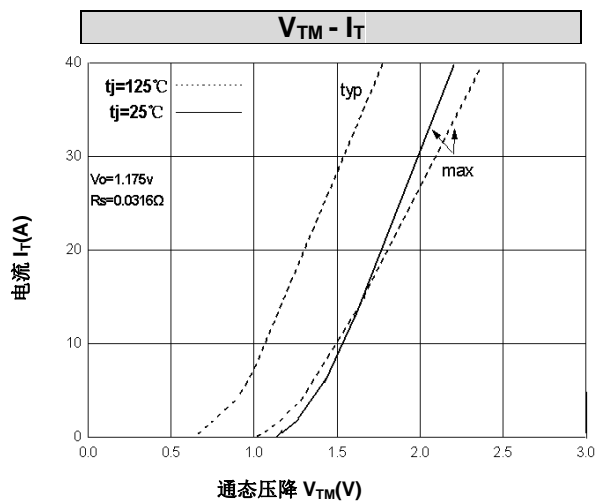
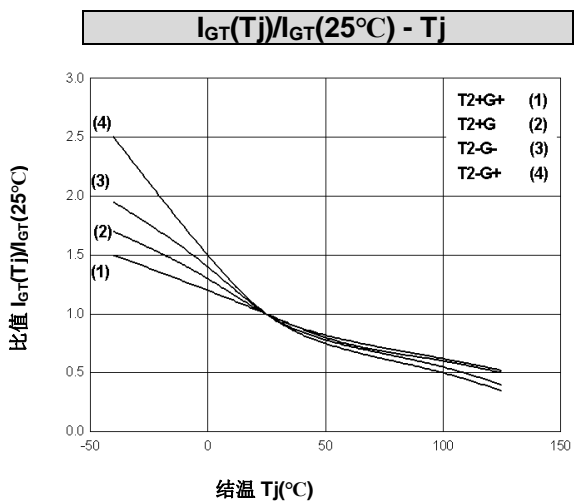
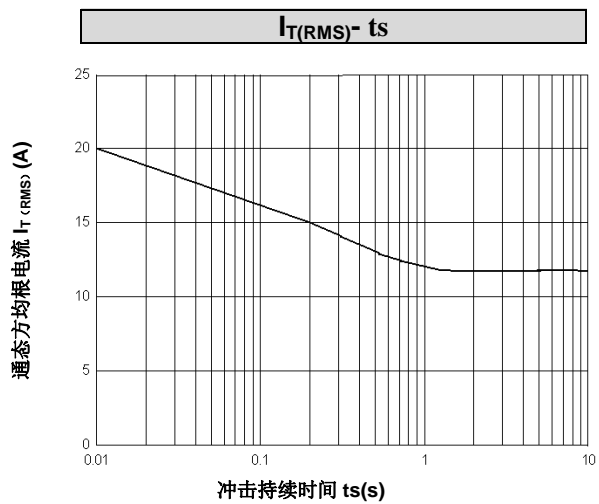
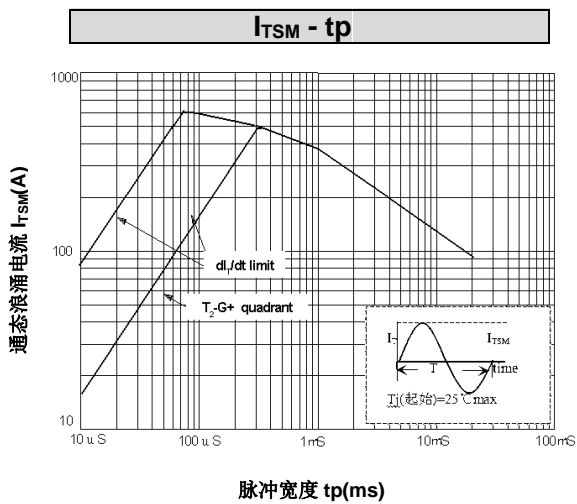
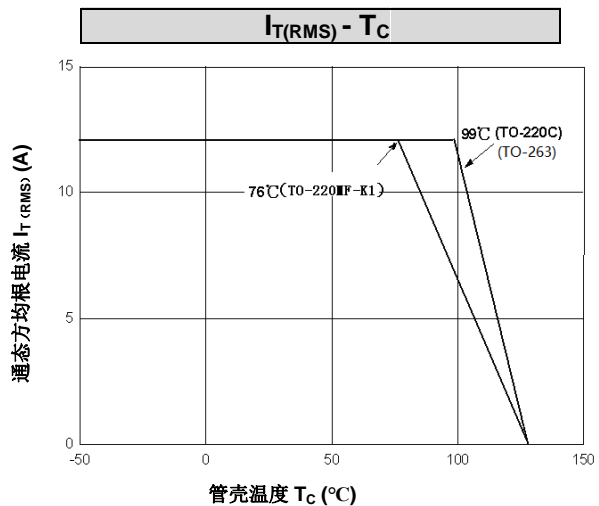
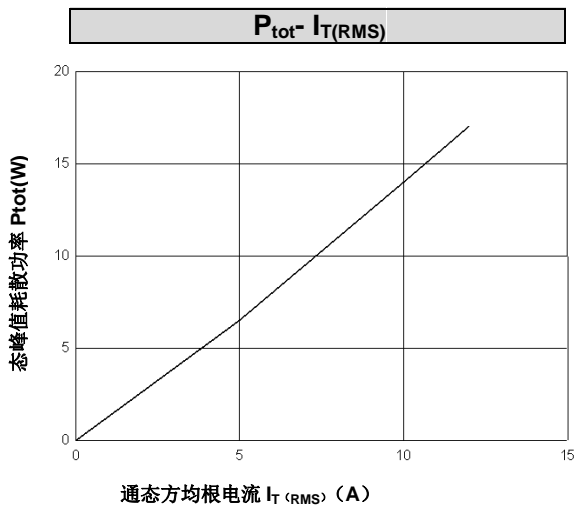
## 热特性 THERMAL CHARACTERISTIC

项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	R <sub>th(j-c)</sub>	full cycle(TO-220C/TO-263)			1.5	°C/W
		full cycle(TO-220MF-K1)			2.8	°C/W





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

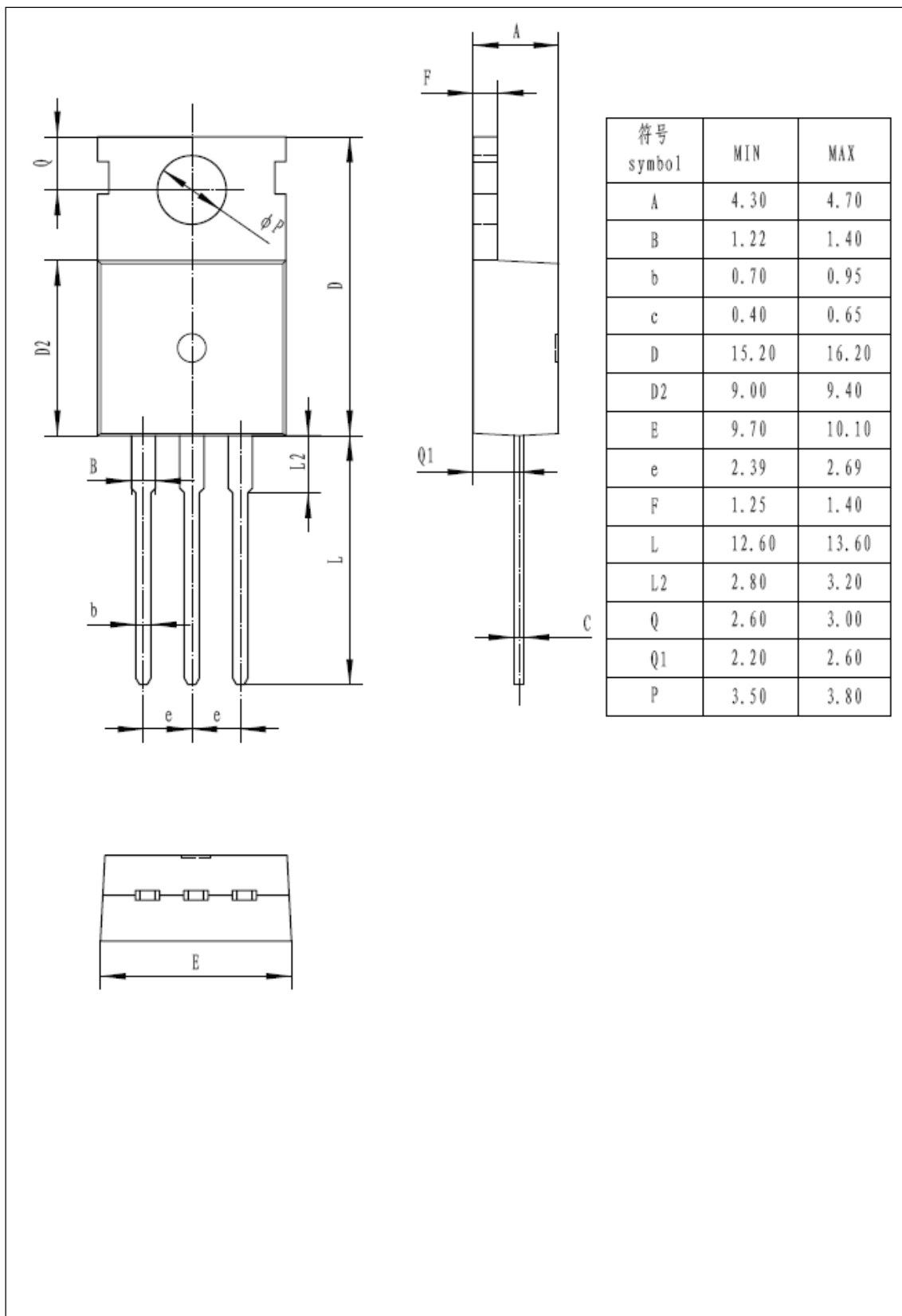




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

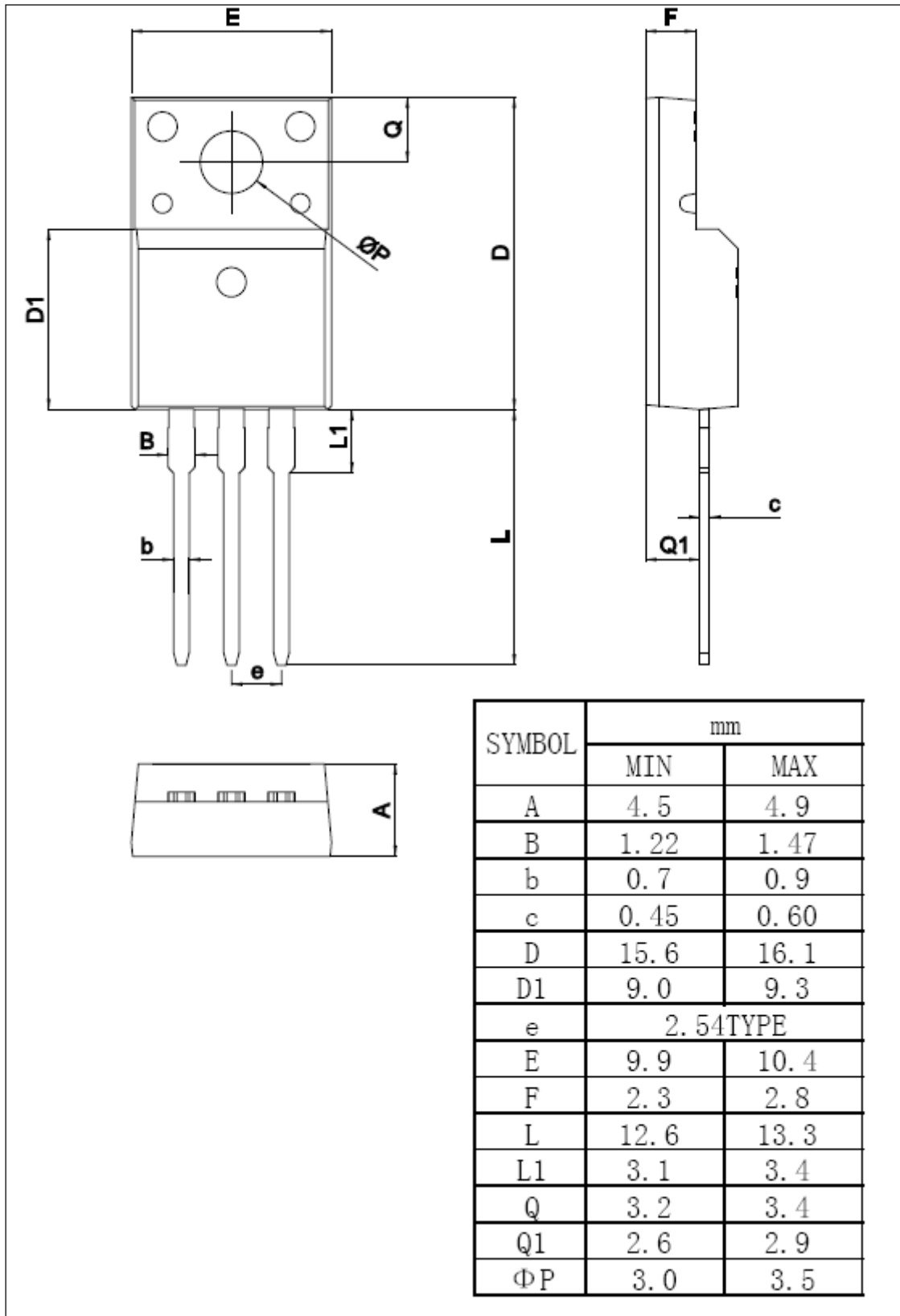




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm





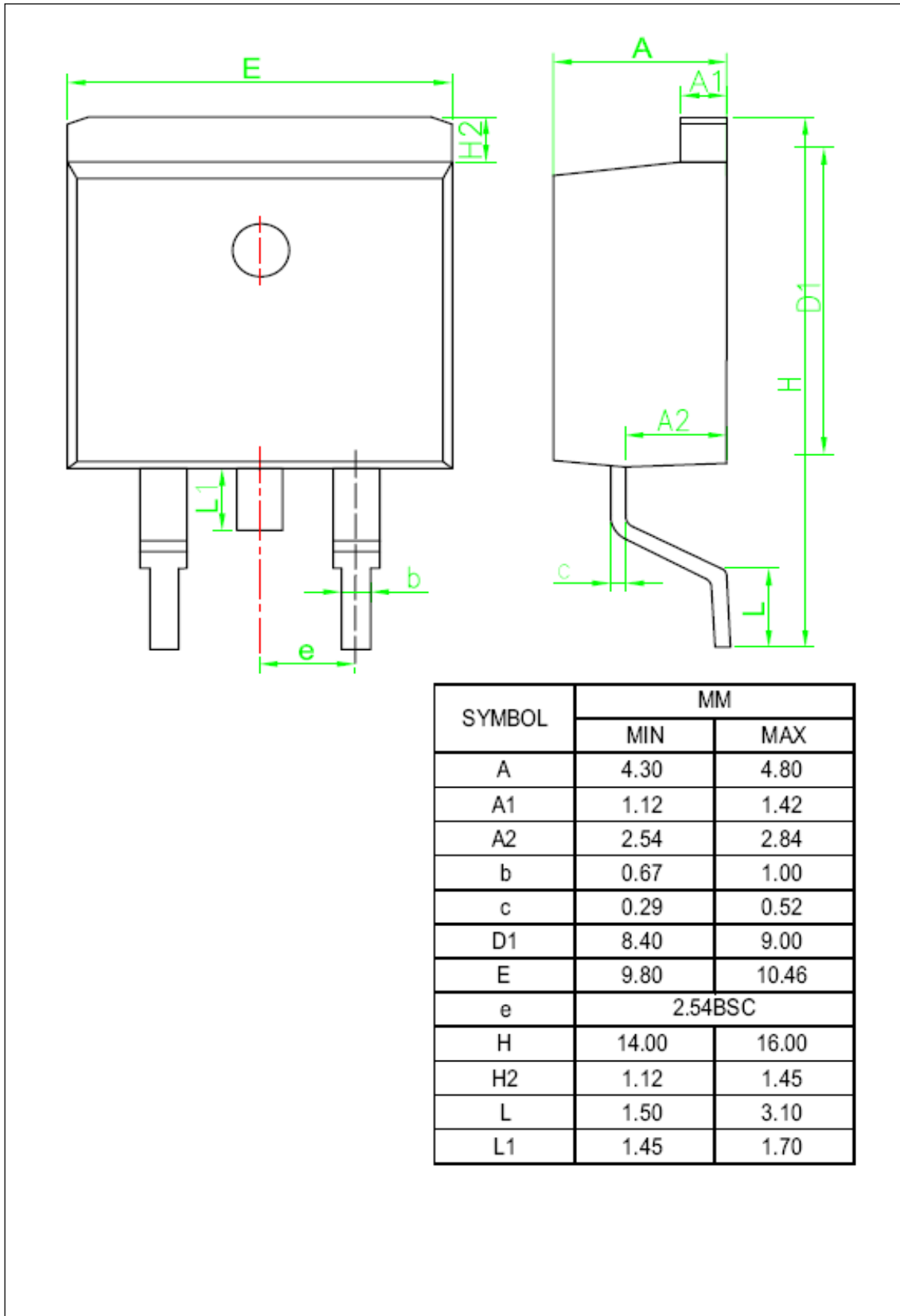
CS1210N4A

外形尺寸 PACKAGE MECHANICAL DATA

TO-263

单位 Unit : mm





### 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





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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。

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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.

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