



# CS1210N3A

## 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

## 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

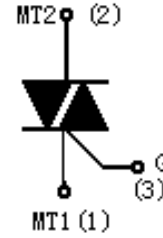
## APPLICATIONS

- AC switching
- Phase control

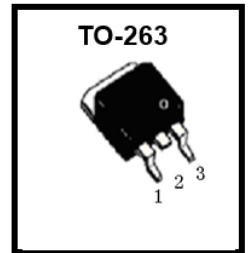
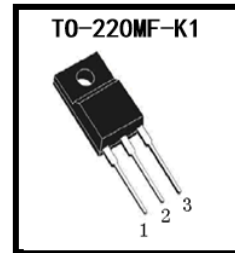
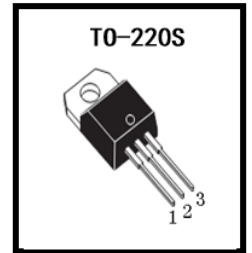
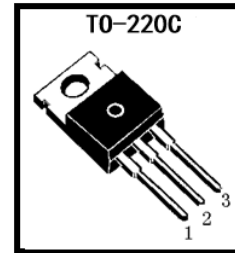
## FEATURES

- Glass-passivated mesa chip for high 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-袋装	无卤-袋装	CS1210N3A	TO-263
Halogen-Tube	halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
CS1210N3A-S-B	CS1210N3A-S-BR	CS1210N3A-S-C	CS1210N3A-S-CR		
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装	CS1210N3A	TO-220C
Halogen-Tube	halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
CS1210N3A-C-B	CS1210N3A-C-BR	CS1210N3A-C-C	CS1210N3A-C-CR		
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装	CS1210N3A	TO-220S
Halogen-Tube	halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
CS1210N3A-CB-B	CS1210N3A-CB-BR	CS1210N3A-CB-C	CS1210N3A-CB-CR		
有卤-条管	无卤-条管	有卤-袋装	无卤-袋装	CS1210N3A	TO-220MF-K1
Halogen-Tube	halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
CS1210N3A-F1-B	CS1210N3A-F1-BR	CS1210N3A-F1-C	CS1210N3A-F1-CR		

绝对最大额定值 ABSOLUTE RATINGS (T<sub>c</sub>=25°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 <sub>DRM</sub>		±800	V
通态方均根电流 On-state RMS current	I <sub>T(RMS)</sub>	full sine wave	12	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I <sub>TSM</sub>	full sine wave, t=20ms	150	A
		full sine wave, t=16.7ms	161	A
	I <sup>2</sup> t	t=10ms	112	A <sup>2</sup> s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	I <sub>TM</sub> =12A, I <sub>G</sub> =0.2A, dI <sub>G</sub> /dt=0.2A/μs	100	A/μs
峰值门极电流 Peak gate current	I <sub>GM</sub>		2	A
峰值门极电压 Peak gate voltage	V <sub>GM</sub>		5	V
峰值门极功率 Peak gate power	P <sub>GM</sub>		5	W
平均门极功率 Average gate power	P <sub>G(AV)</sub>	over any 20ms period	0.5	W
存储温度 Storage temperature	T <sub>stg</sub>		-40~150	°C
操作结温 Operation junction temperature	T <sub>VJ</sub>		125	°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	-	0.2	0.8	mA	
峰值通态电压 Peak on-state voltage	V <sub>TM</sub>	I <sub>TM</sub> =10A	-		1.65	V	
门极触发电压 Gate trigger voltage	V <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100 Ω	-	-	1.5	V	
门极开通时间 Gate controlled turn-on time	t <sub>gt</sub>	I <sub>TM</sub> =12A, V <sub>DM</sub> =V <sub>DRM(MAX)</sub> , I <sub>G</sub> =0.1A, dI <sub>G</sub> /dt=5A/μS	-	2	-	μs	
门极触发电流 Gate trigger current	I <sub>GT</sub>	V <sub>DM</sub> =12V, R <sub>L</sub> =100 Ω	MT1(-), MT2(+), G(+)			≤10	mA
			MT1(-), MT2(+), G(-)				mA
			MT1(+), MT2(-), G(-)				mA
维持电流 Holding current	I <sub>H</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A		≤25		mA	
擎住电流 Latching current	I <sub>L</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A		≤50		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	40	-	-	V/μs	

## 热特性 THERMAL CHARACTERISTIC

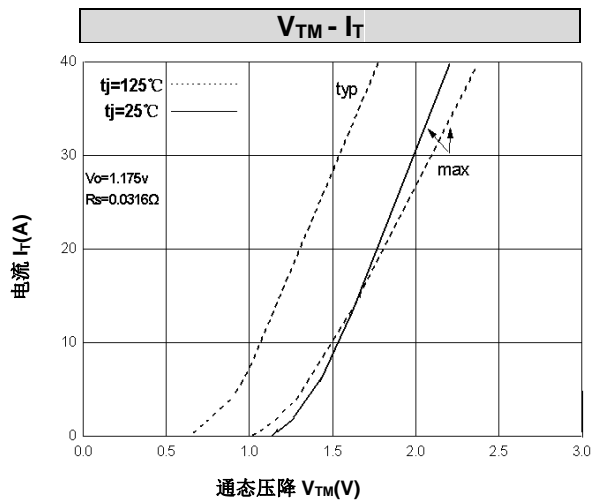
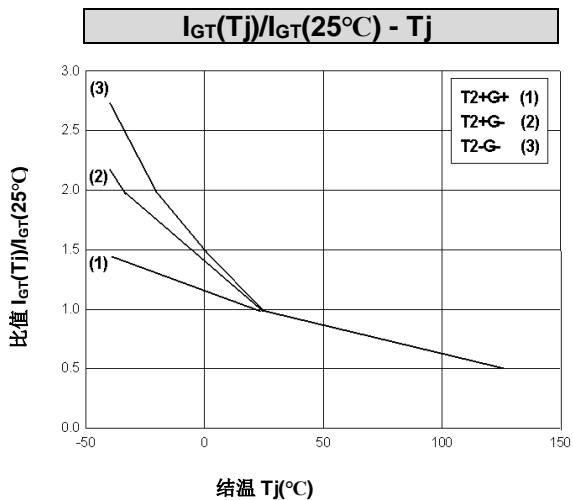
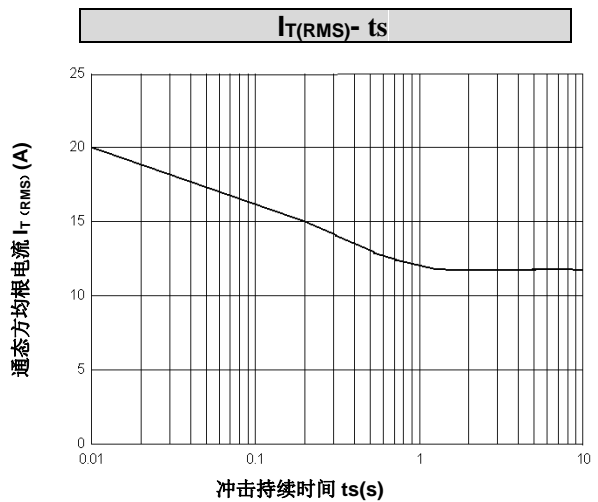
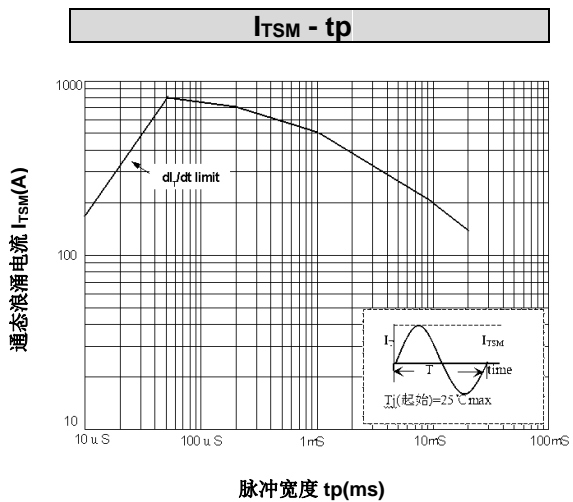
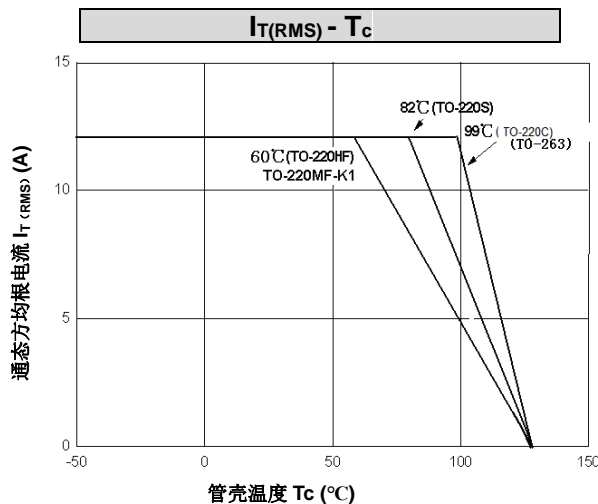
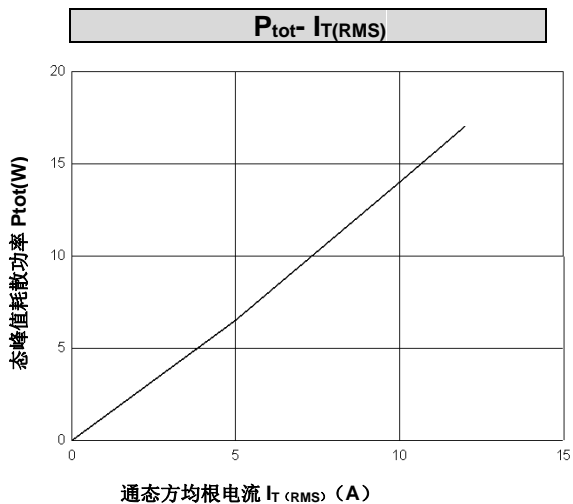
项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	R <sub>th(j-c)</sub>	full cycle(TO-220MF-K1)			4.0	°C/W
		full cycle(TO-220S)			2.4	°C/W
		full cycle(TO-220C/TO-263)			1.5	°C/W

## 电绝缘特性 ELECTRICAL ISOLATION

项 目 Parameter	符 号 Symbol	条 件 Condition	数 值 Value	单 位 Unit
绝缘电压 Isolation voltage	V <sub>ISOL</sub>	1 minute, leads to mounting tab TO-220MF-K1	2000	V



特征曲线 ELECTRICAL CHARACTERISTICS (curves)

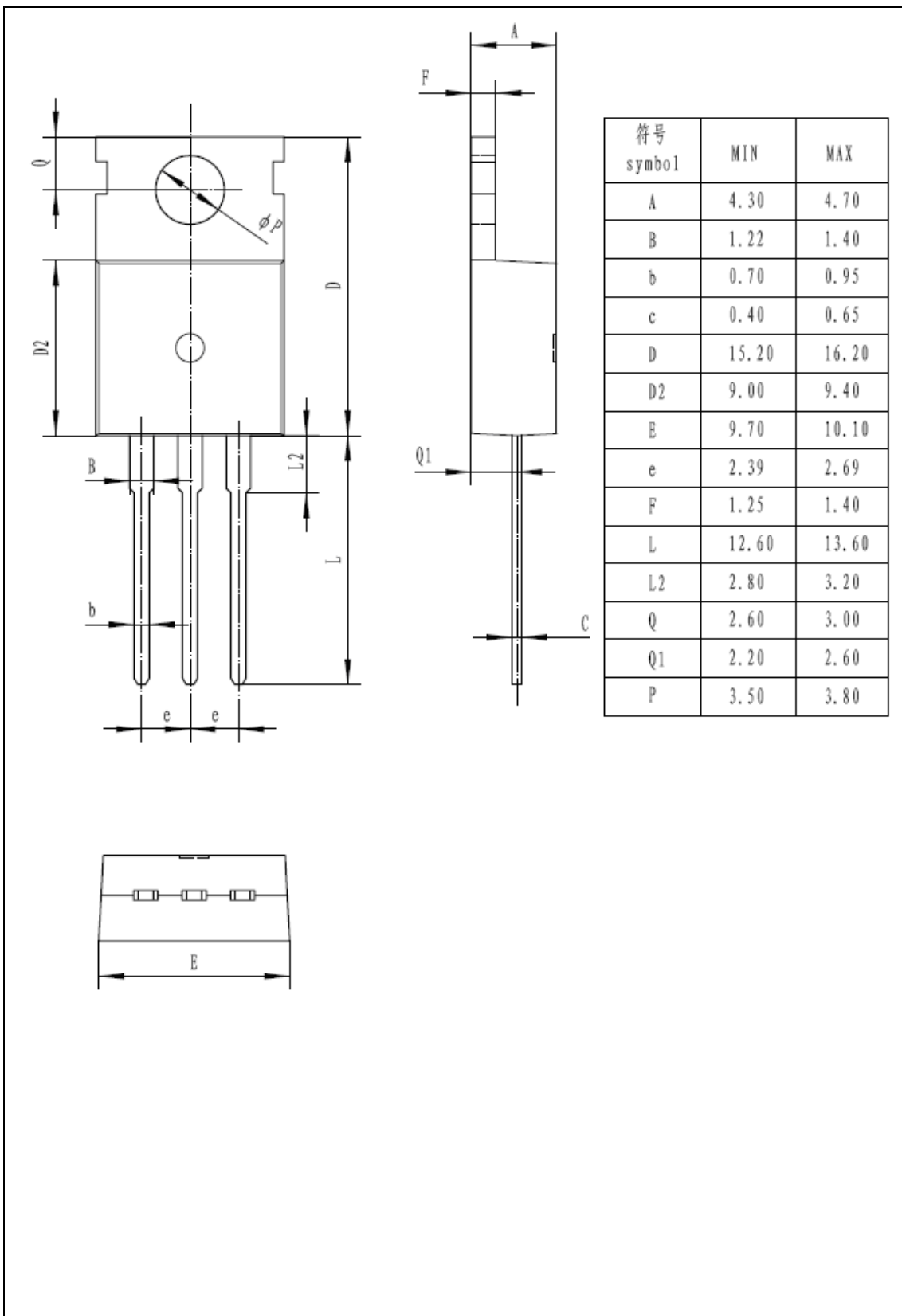




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

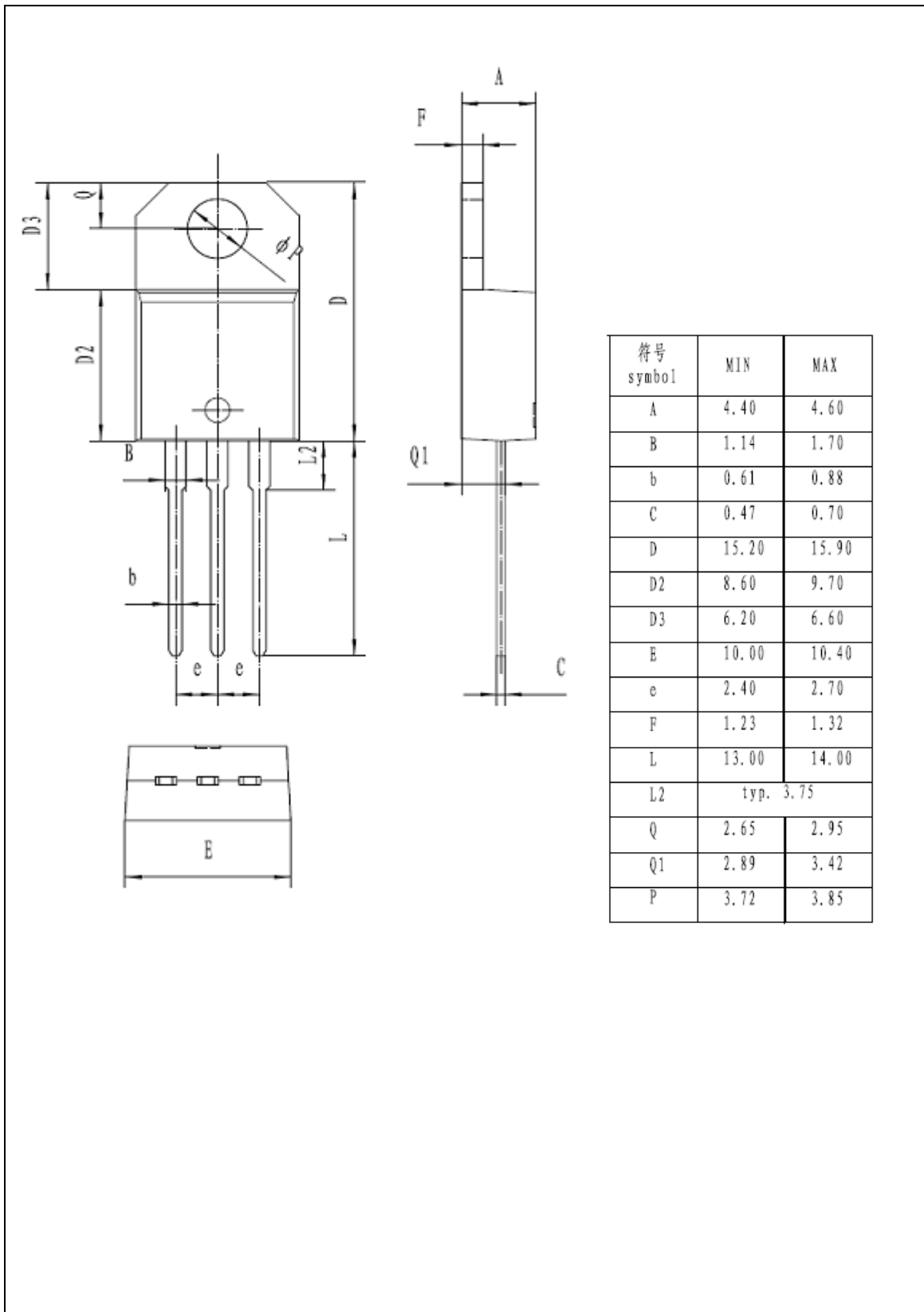




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-220S

单位 Unit : mm

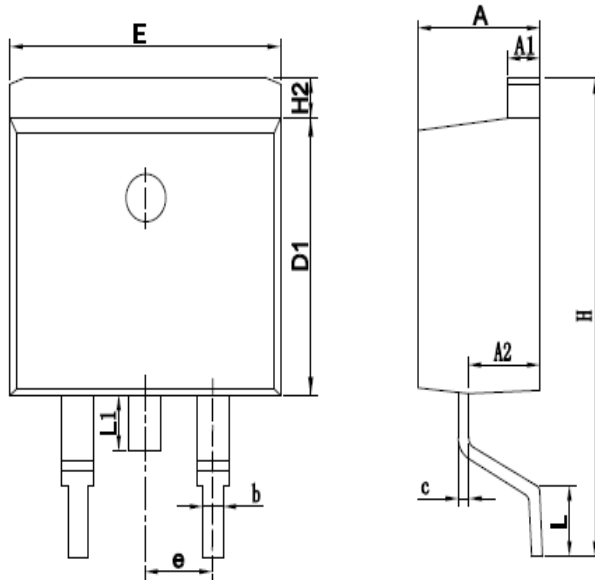




## 外形尺寸 PACKAGE MECHANICAL DATA

TO-263

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

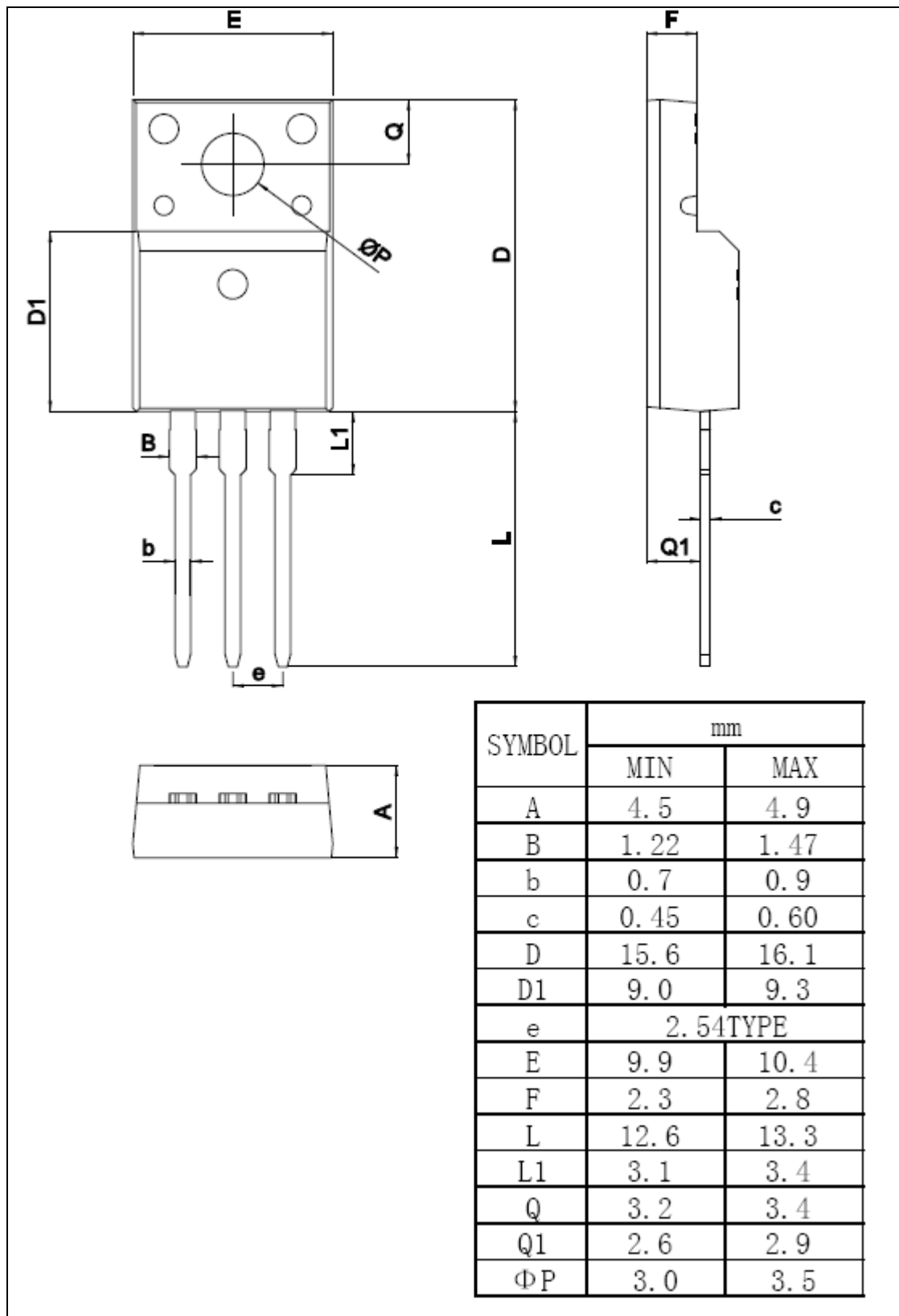
单位: mm



## 外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm







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