



CS405N4A

主要参数 MAIN CHARACTERISTICS

$I_T(RMS)$	4A
V_{DRM}	800V
I_{GT}	5mA

用途

交流开关
相位控制

APPLICATIONS

AC switching
Phase control

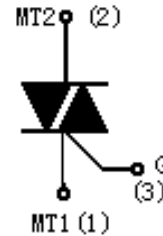
产品特性

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

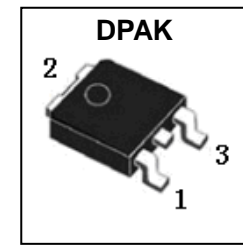
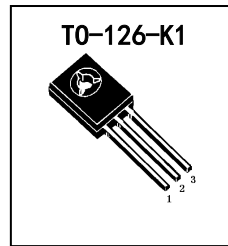
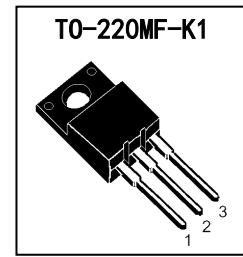
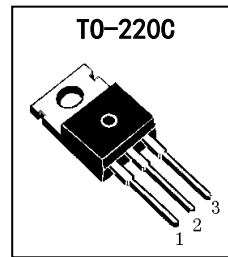
FEATURES

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	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-袋装 Halogen-Bag	无卤-袋装 Halogen-Free-Bag	有卤-条管 Halogen-Tube	无卤-条管 Halogen-Free-Tube	CS405N4A	TO-220C
CS405N4A-CA-C	CS405N4A-CA-CR	CS405N4A-CA-B	CS405N4A-CA-BR		
有卤-编带 Halogen-Reel	无卤-编带 Halogen-Free-Reel	有卤-袋装 Halogen-Bag	无卤-袋装 Halogen-Free-Bag		
CS405N4A-R-A	CS405N4A-R-AR	N/A	N/A		
有卤-袋装 Halogen-Bag	无卤-袋装 Halogen-Free	有卤-条管 Halogen-Tube	无卤-条管 Halogen-Free	CS405N4A	TO-220MF-K1





	e-Bag	e	e- Tube		
CS405N4A -F1-C	CS405N4A -F1-CR	CS405N4A -F1-B	CS405N4A -F1-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	CS405N4A	TO-126-K1
Halogen-Bag	Halogen-Fre e-Bag	Halogen-Tub e	Halogen-Fre e- Tube		
CS405N4A -M-C	CS405N4A -M-CR	CS405N4A -M-B	CS405N4A -M-BR		

概述 GENERAL DESCRIPTION

CS405N4A是玻璃钝化芯片结构的四象限双向晶闸管。器件封装形式有TO-220C、TO-126-K1、DPAK和TO-220MF-K1。

CS405N4A are Glass passivated four quadrant triacs. Available packages are TO-220C、TO-126-K1、DPAK and TO-220MF-K1.

绝对最大额定值 ABSOLUTE RATINGS (T_c=25℃)

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 _{DRM}		±600 ±800	V
通态方均根电流 On-state RMS current	I _{T(RMS)}	full sine wave	4	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I _{TSM}	full sine wave ,t=20ms	25	A
		full sine wave ,t=16.7ms	27	A
	I ² t	t=10ms	3.1	A ² s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	I _{TM} =6A, I _G =0.2A, di _G /dt=0.2A/μs	50	A/μs
峰值门极电流 Peak gate current	I _{GM}		2	A
峰值门极电压 Peak gate voltage	V _{GM}		5	V
峰值门极功率 Peak gate power	P _{GM}		5	W
平均门极功率 Average gate power	P _{G(AV)}	over any 20ms period	0.5	W
存储温度 Storage temperature	T _{stg}		-40~150	℃
操作结温 Operation junction temperature	T _{VJ}		125	℃



电特性 ELECTRICAL CHARACTERISTIC (T_c=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 _{DRM}	V _{DM} =V _{DRM} , T _j =25°C, gate open	-	-	10	μA	
		V _{DM} =V _{DRM} , T _j =125°C, gate open	-	-	0.5	mA	
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =5.6A	-	-	1.6	V	
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100 Ω	MT1(-),MT2(+),G(+)	-	-	5	mA
			MT1(-),MT2(+),G(-)	-	-	5	mA
			MT1(+),MT2(-),G(-)	-	-	5	mA
			MT1(+),MT2(-),G(+)	-	-	10	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω	MT1(-),MT2(+),G(+)	-	-	1.5	V
			MT1(-),MT2(+),G(-)	-	-	1.5	V
			MT1(+),MT2(-),G(-)	-	-	1.5	V
			MT1(+),MT2(-),G(+)	-	-	2.0	V
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A	-	-	10	mA	
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	-	-	20	mA	
断态临界电压上升率 Rise of off- state voltage	dV/dt	V _{DM} =67% V _{DRM(MAX)} , T _j =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 _{th(j-c)}	full cycle(TO-220C/TO-126-K1/ DPAK)			3.0	°C/W
		full cycle(TO-220MF-K1)			5.5	°C/W

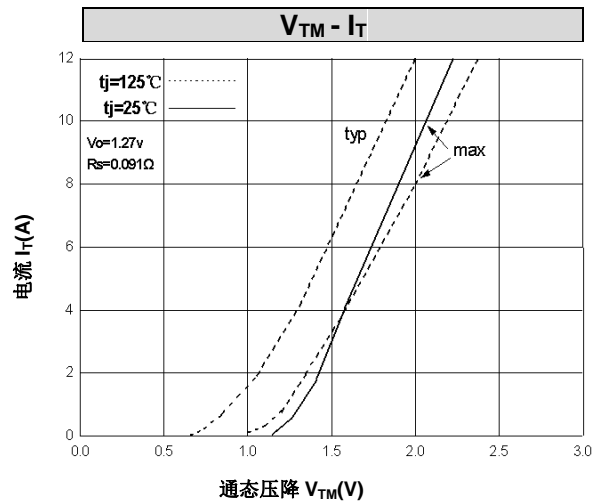
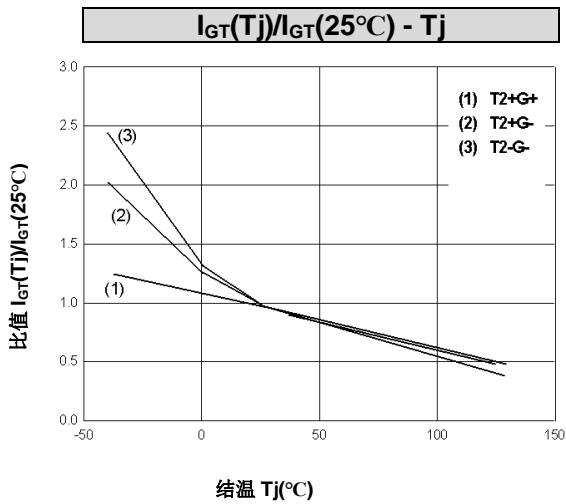
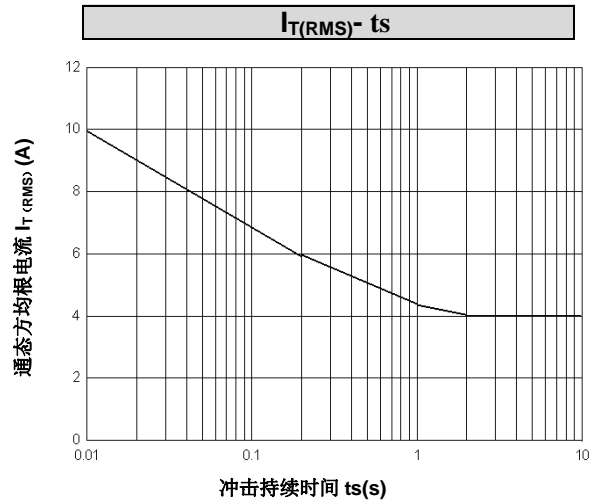
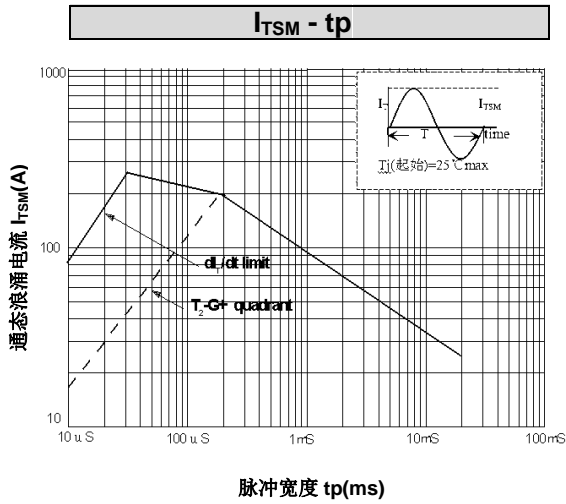
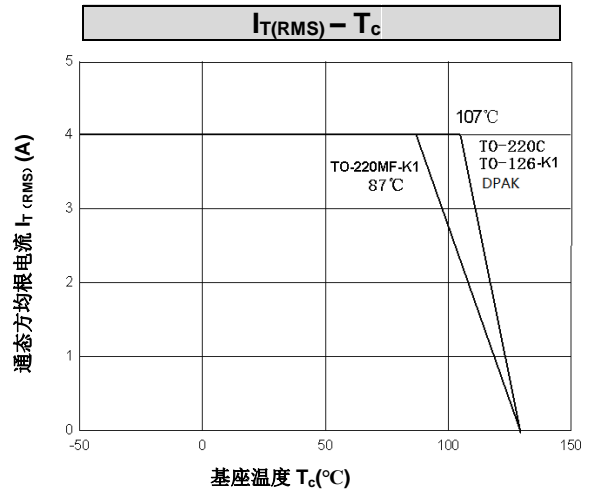
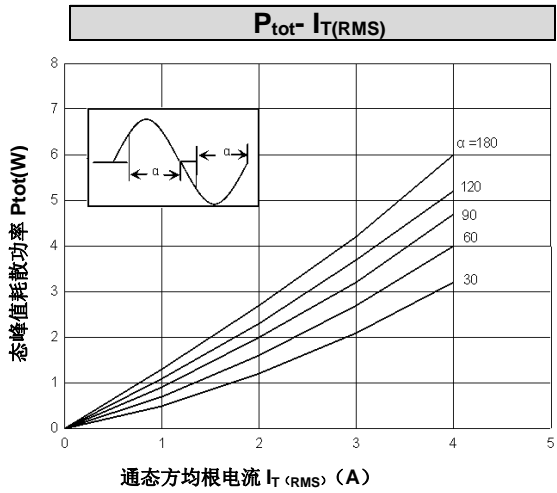
电绝缘特性 ELECTRICAL ISOLATION

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





特征曲线 ELECTRICAL CHARACTERISTICS (curves)

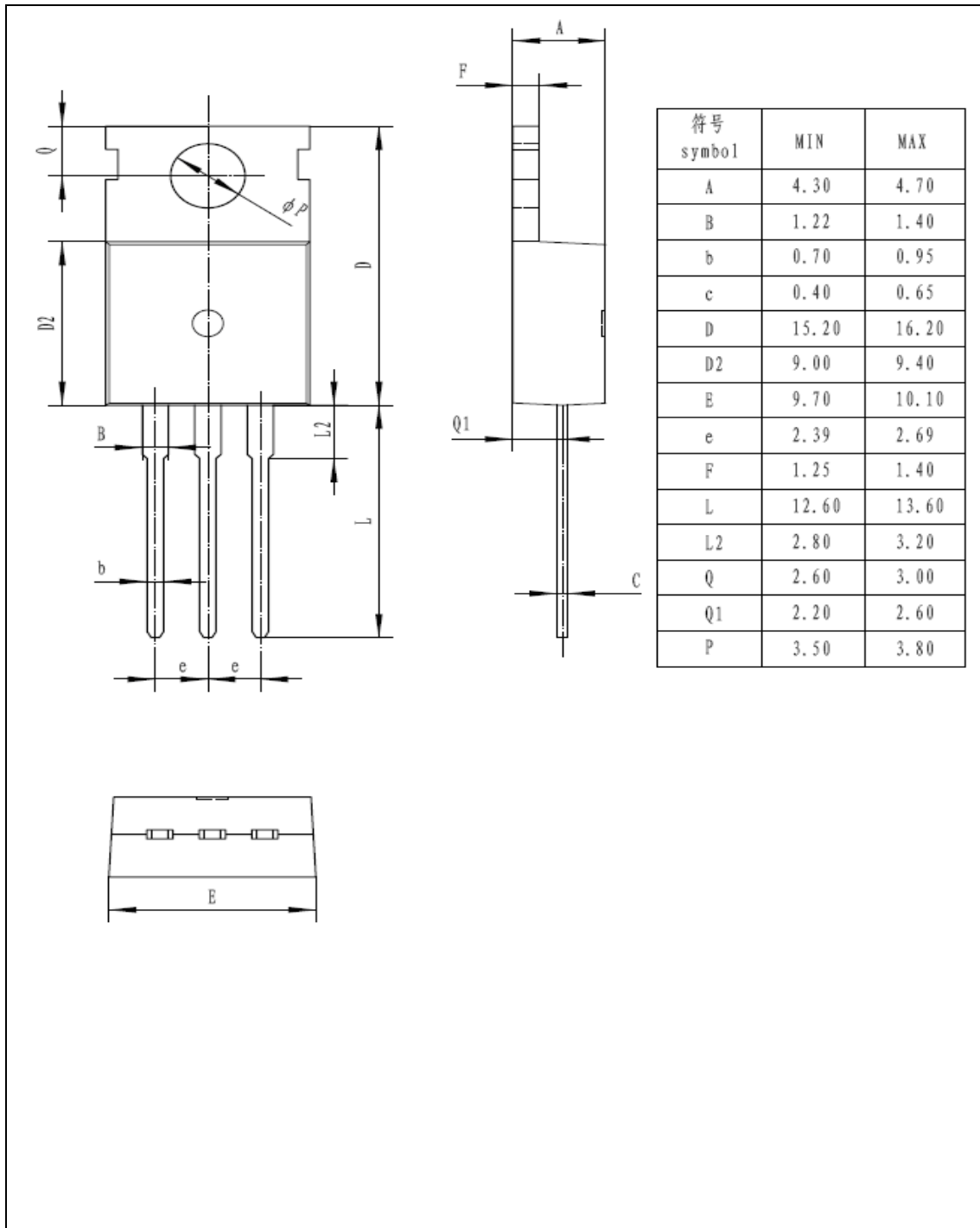




外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

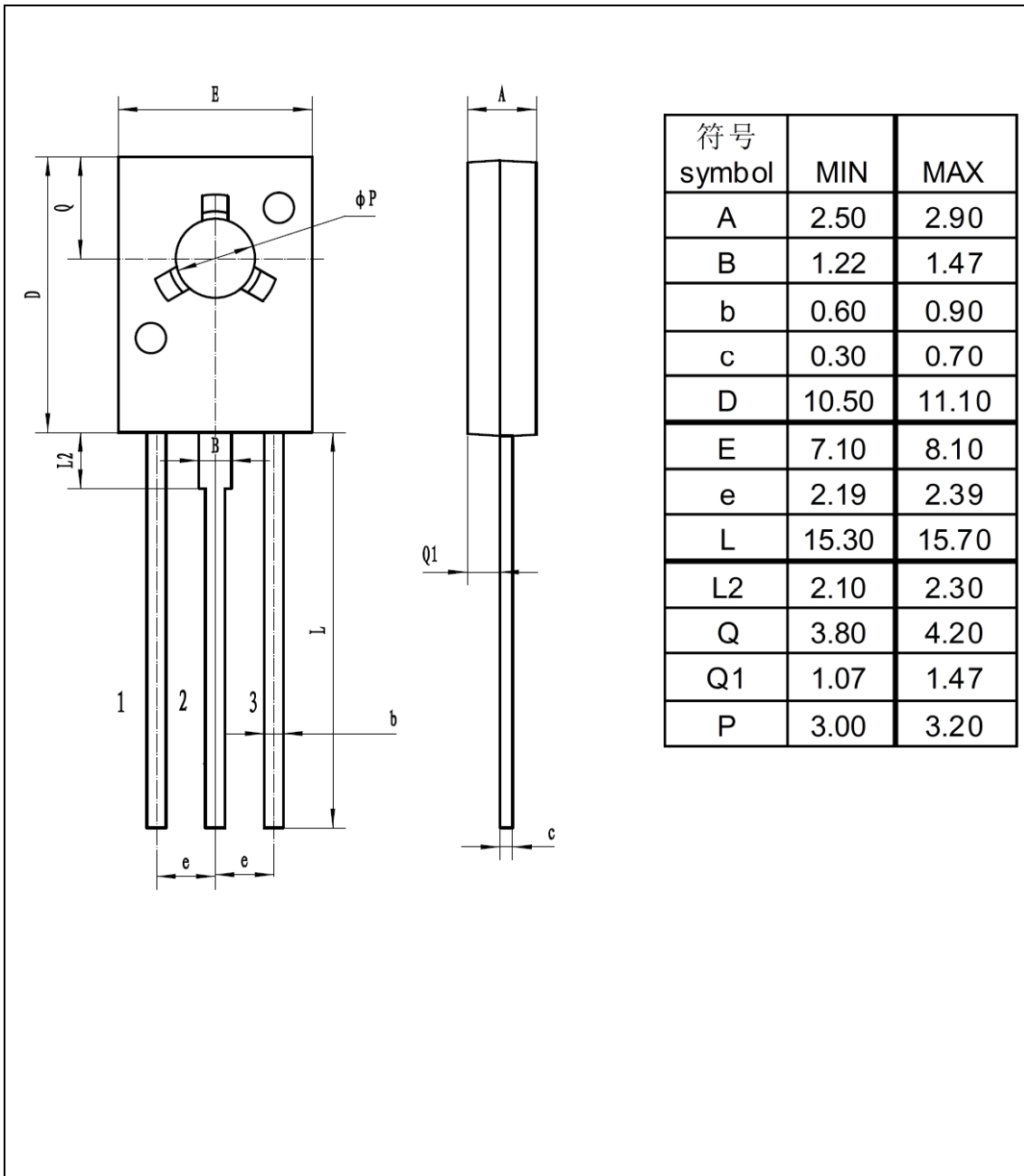




外形尺寸 PACKAGE MECHANICAL DATA

TO-126

单位 Unit : mm

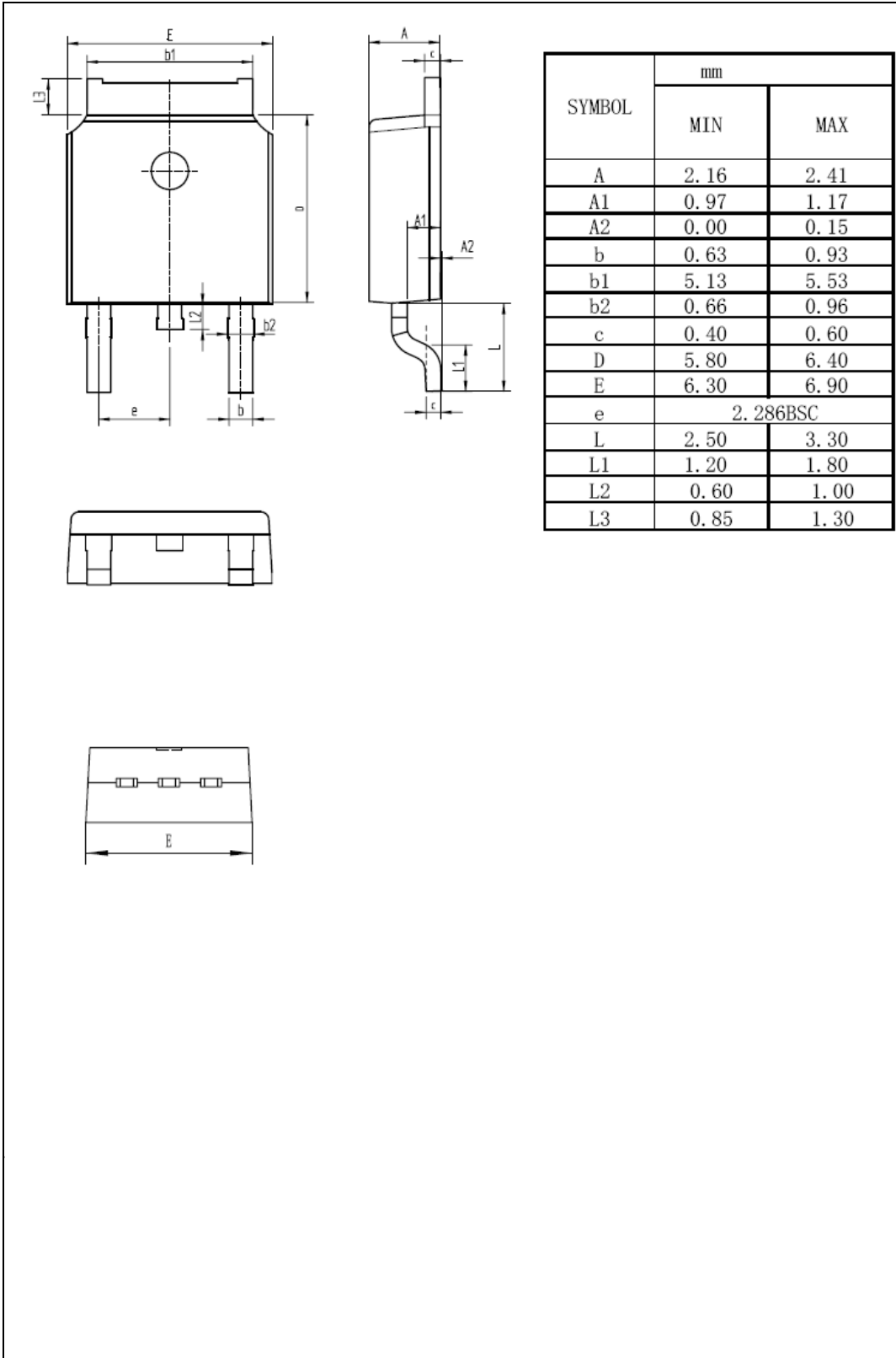




外形尺寸 PACKAGE MECHANICAL DATA

DPAK

单位 Unit : mm

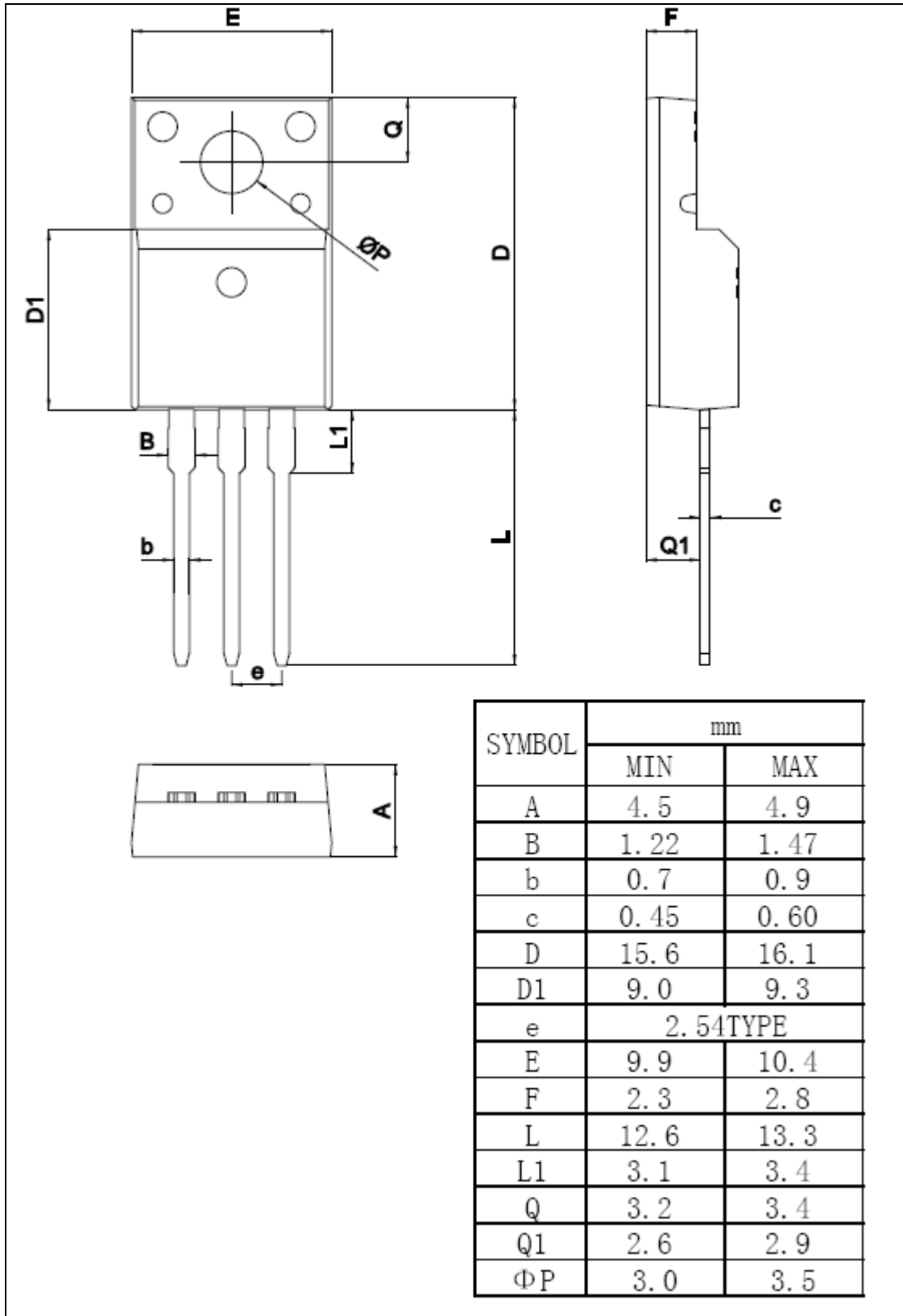




外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm





注意事项

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4. 本说明书如有版本变更不另外告知。

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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.

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