



3FT4C/M/U/F1

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	4A
V_{DRM}	800V
I_{GT}	10mA

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

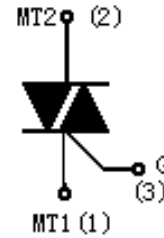
产品特性

- 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

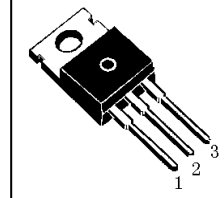
- Glass-passivated mesa chip for reliability and uniform
- Low on-state voltage and High I_{TSM}
- RoHS products

封装 Package

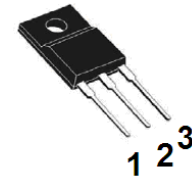


序号 Pin	引线名称 Description
1	主电极 1 MT1
2	主电极 2 MT2
3	门极 G

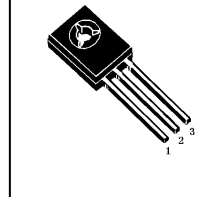
T0-220C



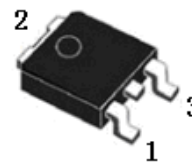
T0-220MF-K1



T0-126



DPAK





订货信息 ORDER MESSAGES

订货型号 Order codes				印记 Marking	封装 Package
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	3FT4C	TO-220C
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3FT4C-CA-C	3FT4C-CA-CR	3FT4C-CA-B	3FT4C-CA-BR		
有卤-编带	无卤-编带	有卤-袋装	无卤-袋装	3FT4U	DPAK
Halogen-Reel	Halogen-Free-Reel	Halogen-Bag	Halogen-Free-Bag		
3FT4U-R-A	3FT4U-R-AR	N/A	N/A		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	3FT4F1	TO-220MF-K1
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3FT4F1-F1-C	3FT4F1-F1-CR	3FT4F1-F1-B	3FT4F1-F1-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	3FT4M	TO-126
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3FT4M-M-C	3FT4M-M-CR	3FT4M-M-B	3FT4M-M-BR		

概述 GENERAL DESCRIPTION

3FT4C/M/U/F1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、DPAK和TO-220MF-K1。

3FT4C/M/U/F1 are Glass passivated four quadrant triacs. Available packages are TO-220C、TO-126、DPAK and TO-220MF-K1.

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_{DRM}		± 800	V
通态方均根电流 On-state RMS current	$I_{\text{T(RMS)}}$	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 , $t=20\text{ms}$	25	A
		full sine wave , $t=16.7\text{ms}$	27	A
	I^2t	$t=10\text{ms}$	3.1	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	$I_{\text{TM}}=6\text{A}$, $I_{\text{G}}=0.2\text{A}$, $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$	50	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	I_{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	$P_{\text{G(AV)}}$	over any 20ms period	0.5	W
存储温度 Storage temperature	T_{stg}		-40~150	$^\circ\text{C}$
操作结温 Operation junction temperature	T_{VJ}		125	$^\circ\text{C}$



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} =5A	-	-	1.7	V	
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100Ω	MT1(-),MT2(+),G(+)	-	-	10	mA
			MT1(-),MT2(+),G(-)	-	-	10	mA
			MT1(+),MT2(-),G(-)	-	-	10	mA
			MT1(+),MT2(-),G(+)	-	-	25	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100Ω	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	-	-	15	mA	
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	-	-	30	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	
门极开通时间 Gate controlled turn-on time	tgt	I _{TM} =6A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, dI _G /dt=5A/μS	-	2	-	μs	

热特性 THERMAL CHARACTERISTIC

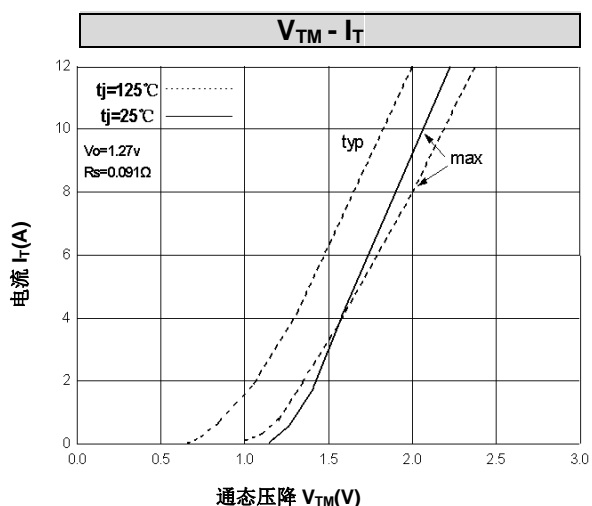
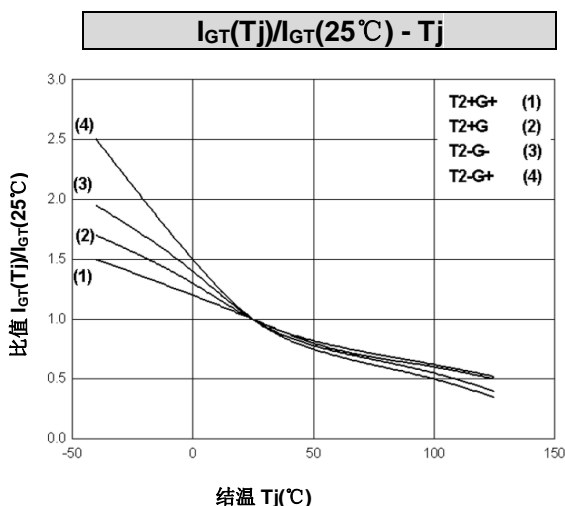
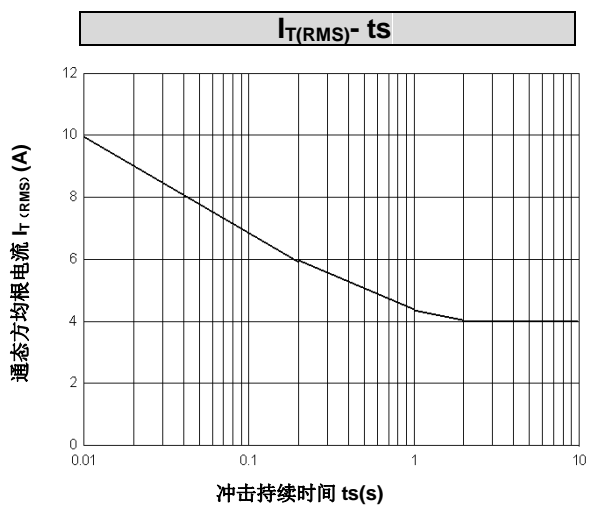
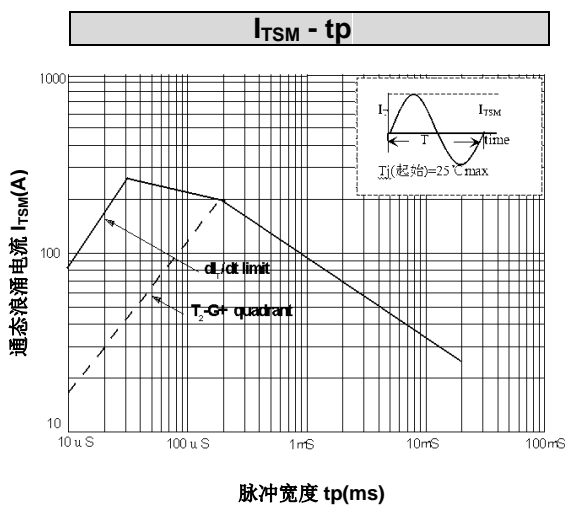
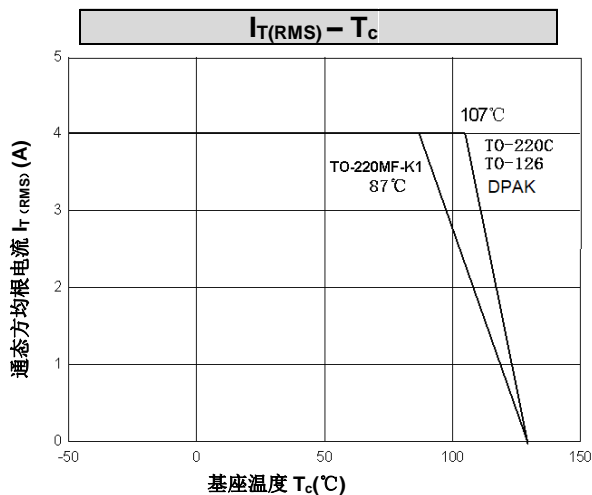
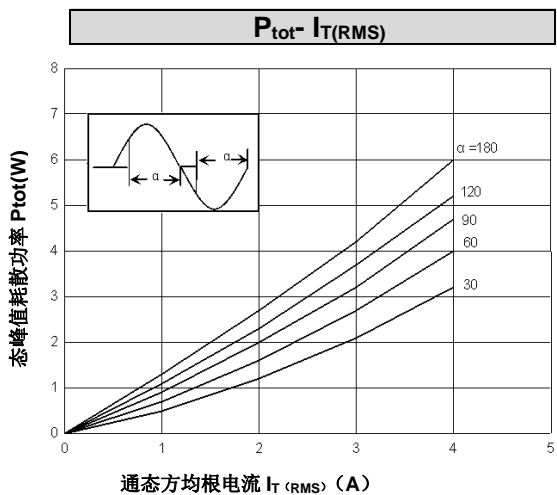
项 目 Parameter	符 号 Symbol	条 件 Condition	最小 Min	典型 Typ	最大 Max	单位 Unit
结到管壳的热阻 Thermal resistance junction to case	R _{th(j-c)}	full cycle(TO-220C/TO-126/DPAK)			3.0	°C/W
		full cycle(TO-220MF-K1)			5.5	°C/W

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)

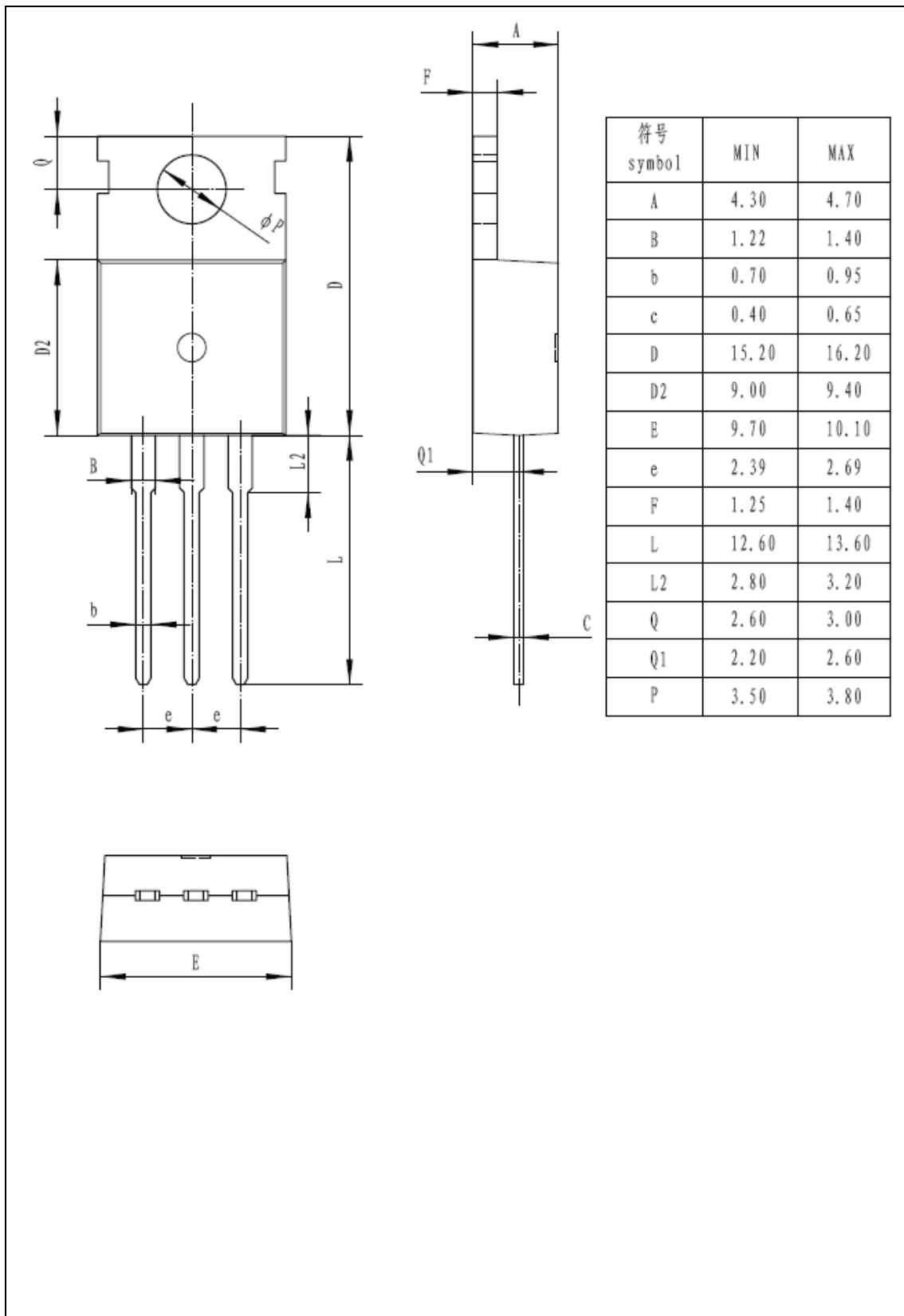




外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

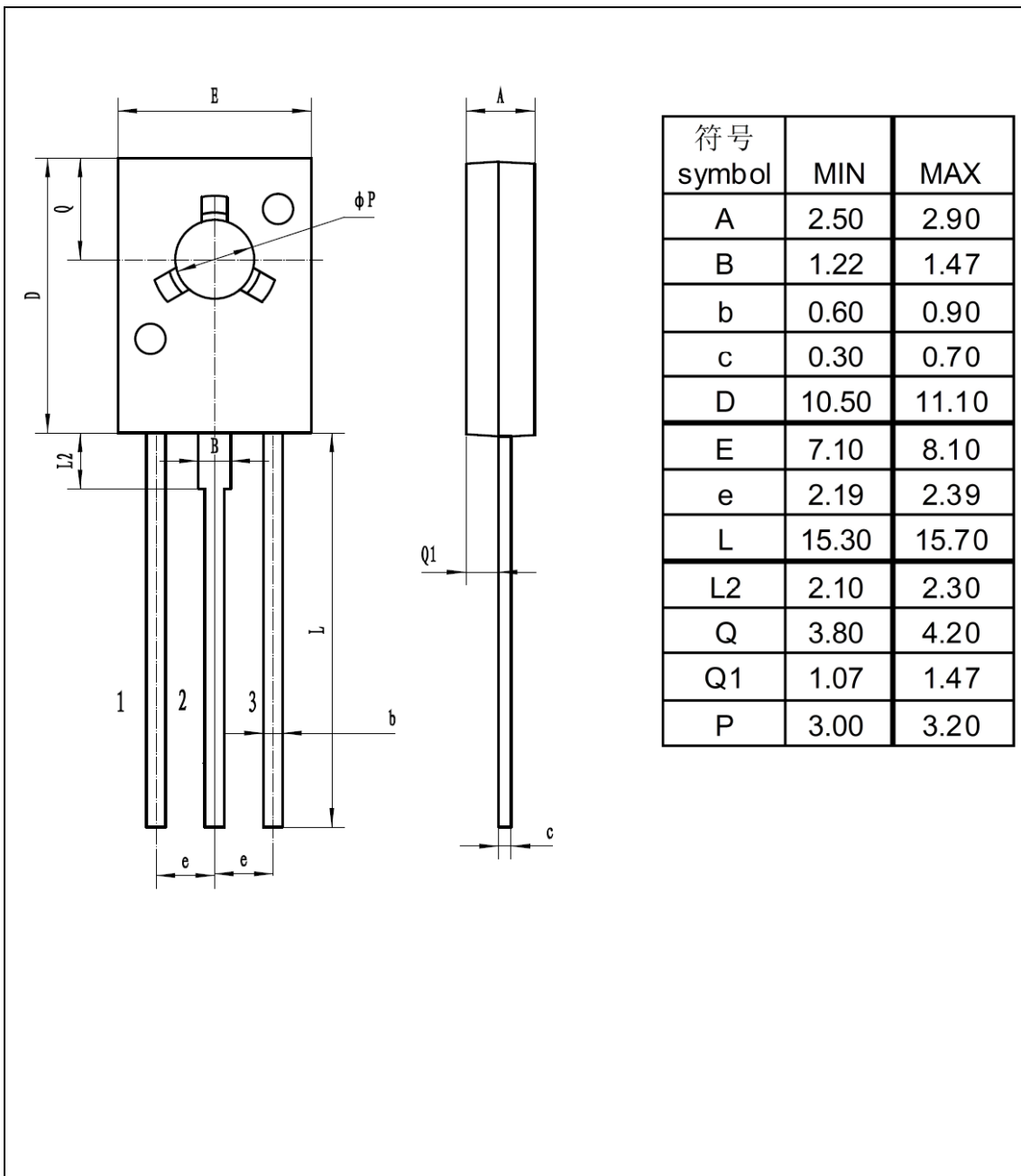




外形尺寸 PACKAGE MECHANICAL DATA

TO-126

单位 Unit : mm

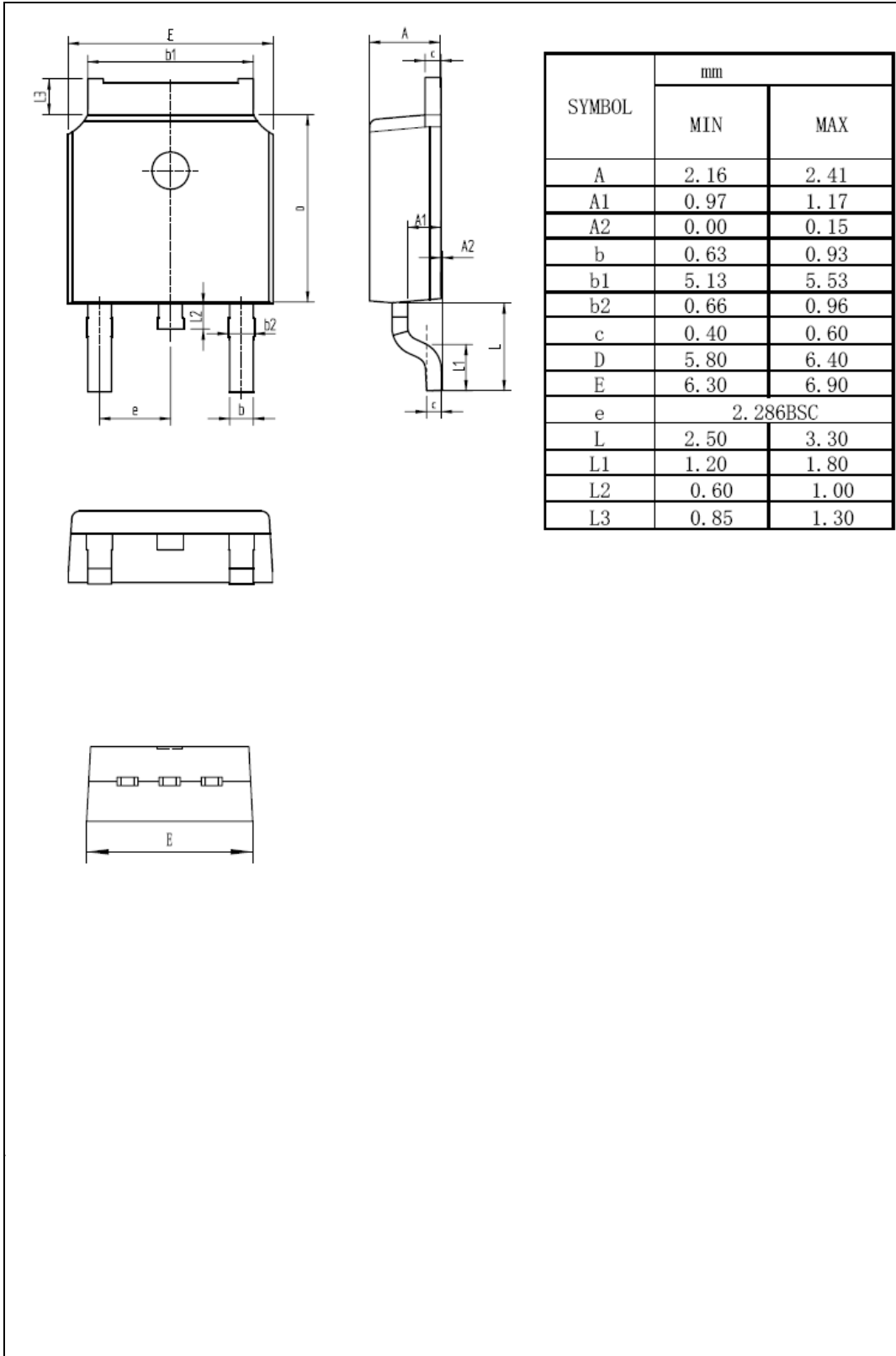




外形尺寸 PACKAGE MECHANICAL DATA

DPAK

单位 Unit : mm

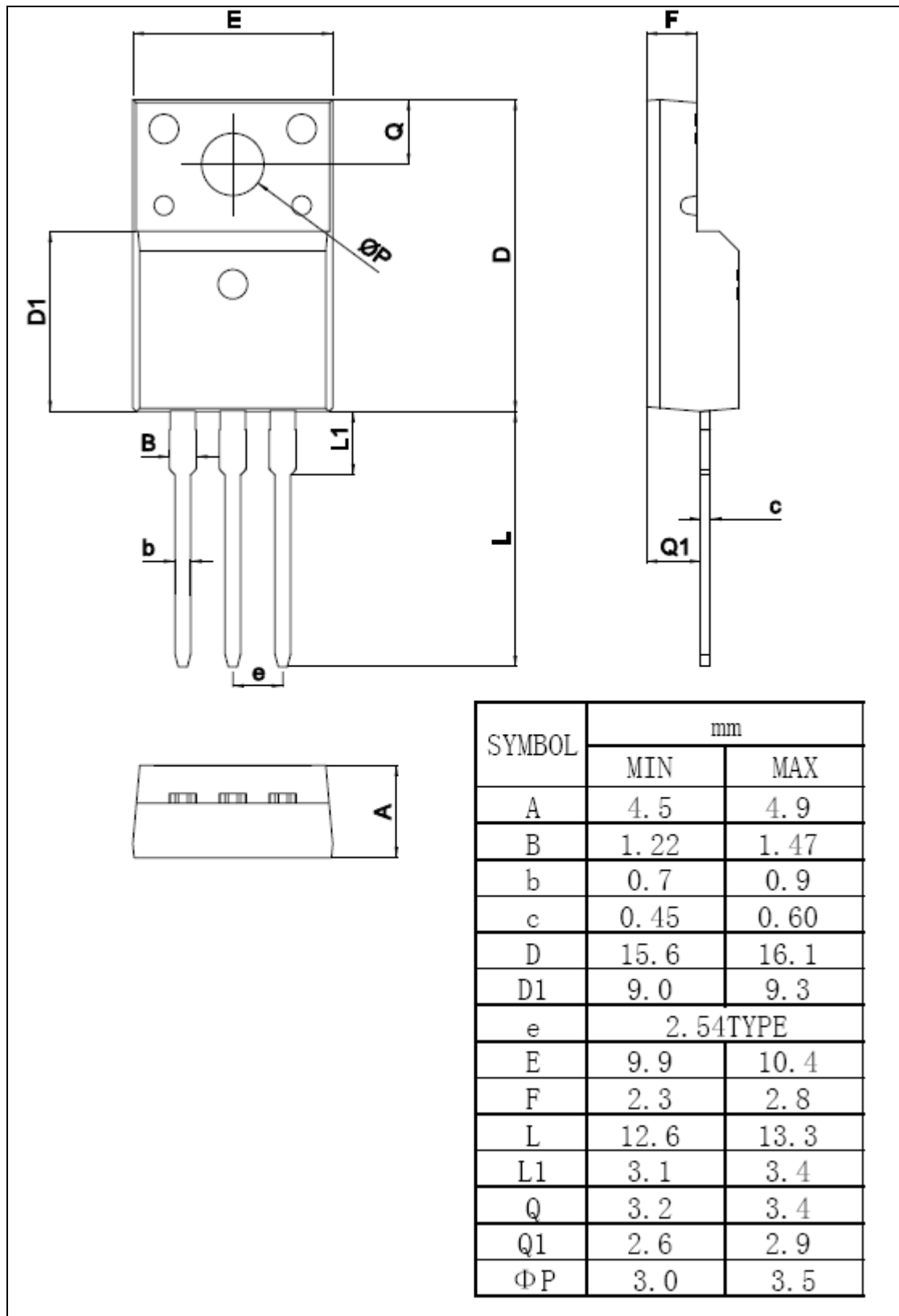




外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm





注意事项

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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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