



3TT8Z/V/C/J/F/U/S/E/F1

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	8A
V_{DRM}	600V or 800V
I_{GT}	35mA

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
- 三象限可控硅，触发电流的一致性好
- 环保 RoHS 产品

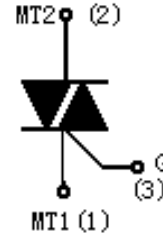
APPLICATIONS

- AC switching
- Phase control

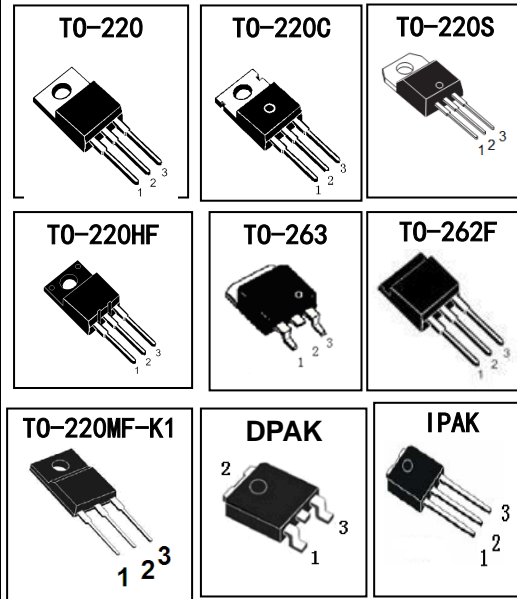
FEATURES

- Glass-passivated mesa chip for reliability and uniform
- Uniform gate trigger currents in three quadrants
- 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				订货型号 Order codes	订货型号 Order codes
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管	3TT8Z	TO-220
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3TT8Z-CA-C	3TT8Z-CA-CR	3TT8Z-CA-B	3TT8Z-CA-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube	3TT8C	TO-220C
3TT8C-CA-C	3TT8C-CA-CR	3TT8C-CA-B	3TT8C-CA-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3TT8J-CB-C	3TT8J-CB-CR	3TT8J-CB-B	3TT8J-CB-BR	3TT8J	TO-220S
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3TT8F-FA-C	3TT8F-FA-CR	3TT8F-FA-B	3TT8F-FA-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube		
3TT8U	Halogen-Free-	Halogen-Bag	Halogen-Free-Bag	3TT8U	DPAK
有卤-编带	无卤-编带	有卤-袋装	无卤-袋装		
Halogen-Reel	Halogen-Free-	Halogen-Bag	Halogen-Free-Bag		





	Reel				
3TT8U-R-A	3TT8U-R-AR	N/A	N/A		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube	3TT8S	TO-263
3TT8S-S-C	3TT8S-S-CR	3TT8S-S-B	3TT8S-S-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube	3TT8E	TO-262F
3TT8Z-BC-C	3TT8Z-BC-CR	3TT8Z-BC-B	3TT8Z-BC-BR		
有卤-袋装	无卤-袋装	有卤-条管	无卤-条管		
Halogen-Bag	Halogen-Free-Bag	Halogen-Tube	Halogen-Free-Tube	3TT8F1	TO-220MF-K1
3TT8F1-F1-C	3TT8F1-F1-CR	3TT8F1-F1-B	3TT8F1-F1-BR		
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	3TT8V	IPAK
3TT8V-V-B	N/A	N/A	N/A		

概述 GENERAL DESCRIPTION

3TT8Z/C/J/F/U/S/E/F1是玻璃钝化芯片结构的三象限双向晶闸管，产品在第四象限不可触发，具有较高的使用可靠性。可适用于容易出现较高 dV/dt 或 dI/dt 的交流全波控制线路中，特别推荐应用与电感性负载控制（如电机控制线路）。器件封装形式有TO-220、TO-220C、TO-220S（引线与散热片绝缘）、TO-220HF（塑料全包封）、DPAK、IPAK、TO-263、TO-262F、TO-220MF-K1。

3TT8Z/C/J/F/U/S/E/F1 are Glass passivated three quadrant triacs, designed for high performance full-wave ac control applications where high static and dynamic dV/dt and high dI/dt can occur. They are specially recommended for use on inductive loads such as motor control circuits. Available packages are TO-220、TO-220C、TO-220S (internally isolated)、TO-220HF (plastic envelope) 、DPAK、IPAK、TO-263、TO-262F 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}		± 600 ± 800	V
通态方均根电流 On-state RMS current	$I_{\text{T(RMS)}}$	full sine wave	8	A
非重复浪涌峰值通态电流 Non-repetitive surge peak on-state current	I_{TSM}	full sine wave , $t=20\text{ms}$	80	A
		full sine wave , $t=16.7\text{ms}$	84	A
		I^2t	$t=10\text{ms}$	32
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	$I_{\text{TM}}=12\text{A}$, $I_{\text{G}}=0.2\text{A}$, $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$	100	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	I_{GM}		4	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 =125°C, gate open	-	-	0.5	mA
峰值通态电压 Peak on-state voltage	V _{TM}	I _{TM} =11.3A	-	1.3	1.7	V
门极触发电流 Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100 Ω, MT1(-),MT2(+),G(+)	2	-	35	mA
		MT1(-),MT2(+),G(-)	2	-	35	mA
		MT1(+),MT2(-),G(-)	2	-	35	mA
门极触发电压 Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100 Ω, MT1(-),MT2(+),G(+)	-	0.7	1.5	V
		MT1(-),MT2(+),G(-)	-	0.7	1.5	V
		MT1(+),MT2(-),G(-)	-	0.7	1.5	V
维持电流 Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A	-	-	50	mA
擎住电流 Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A, MT1(-),MT2(+),G(+)	-	-	50	mA
		MT1(-),MT2(+),G(-)	-	-	75	mA
		MT1(+),MT2(-),G(-)	-	-	50	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	1000	-	-	V/μs
门极开通时间 Gate controlled turn-on time	t _{gt}	I _{TM} =12A, 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-220/TO-220C/DPAK/TO-263/IPAK)			2.0	°C/W
		full cycle(TO-220S)			2.8	°C/W
		full cycle(TO-220HF/TO-262F/TO-220MF-K1)			4.1	°C/W

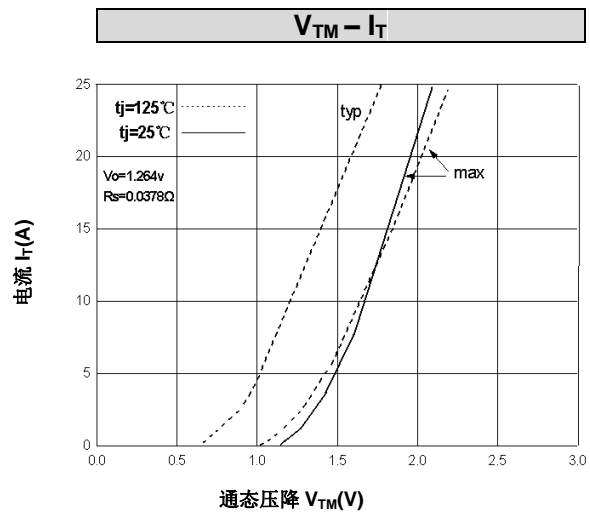
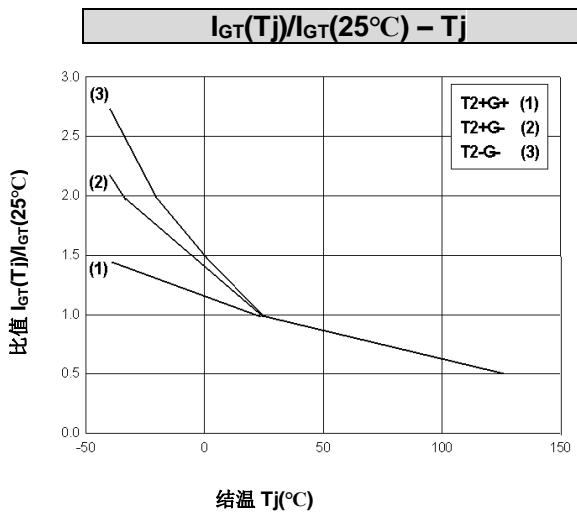
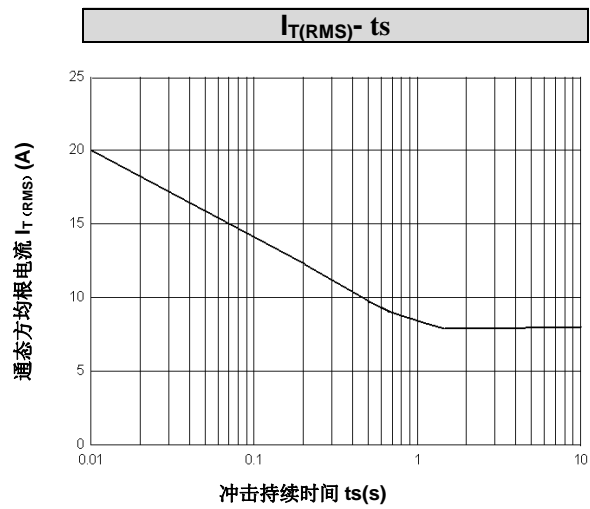
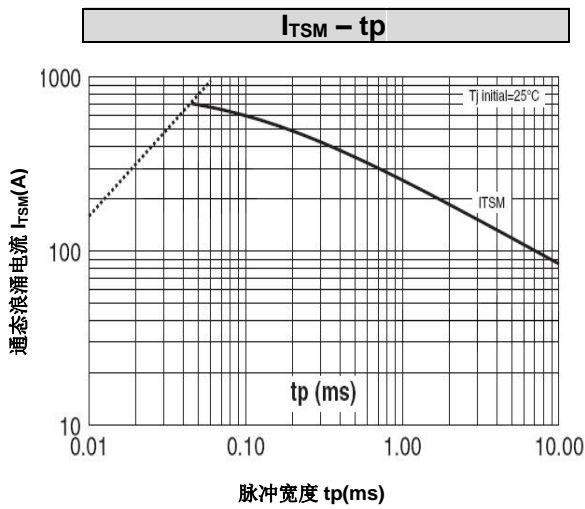
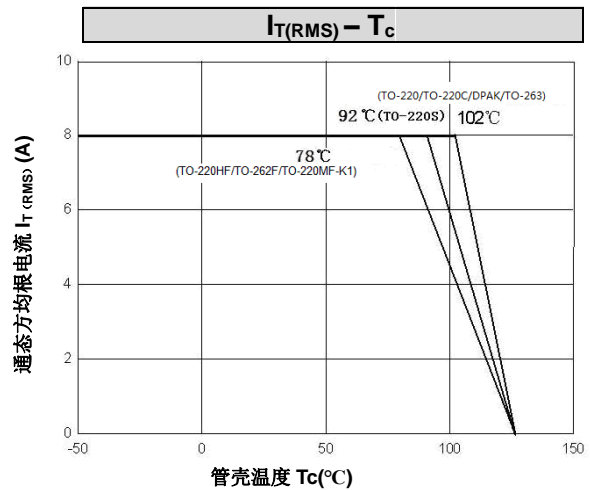
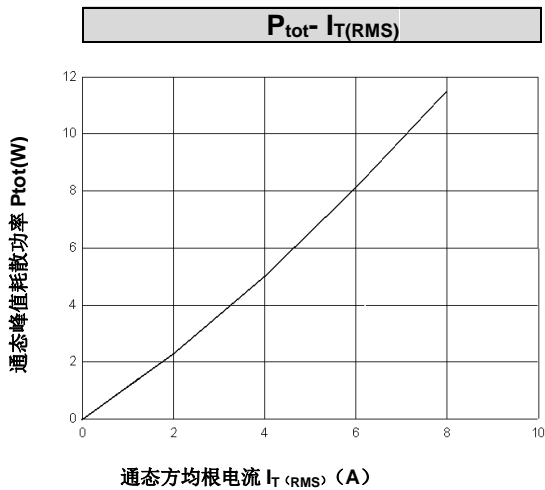
电绝缘特性 ELECTRICAL ISOLATION

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-220S	2000	V
		1 minute, leads to mounting tab TO-220HF/TO-262F/TO-220MF-K1	2000	V





征曲线 ELECTRICAL CHARACTERISTICS (curves)

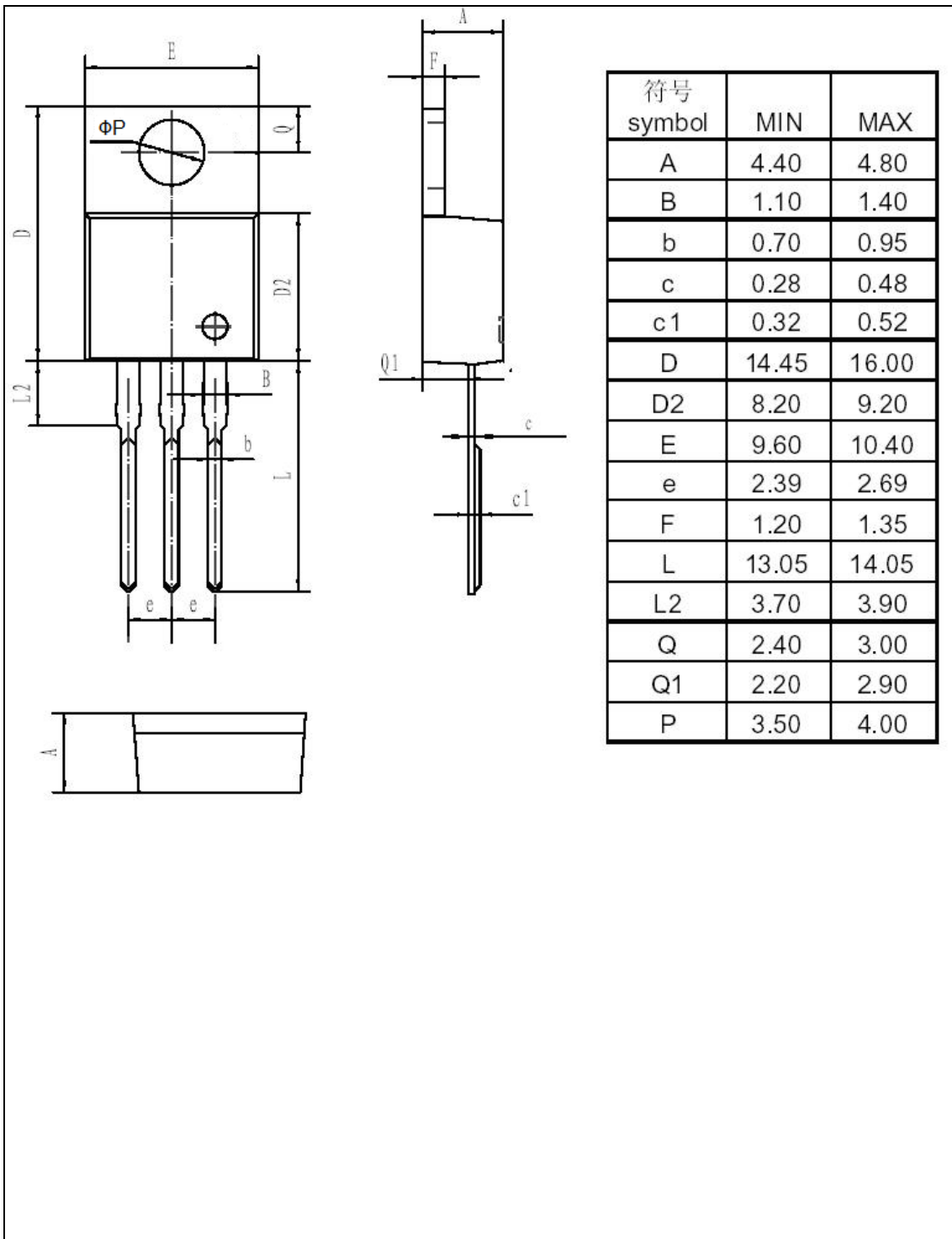




外形尺寸 PACKAGE MECHANICAL DATA

TO-220

单位 Unit : mm

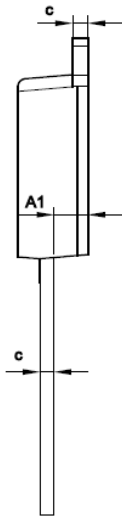
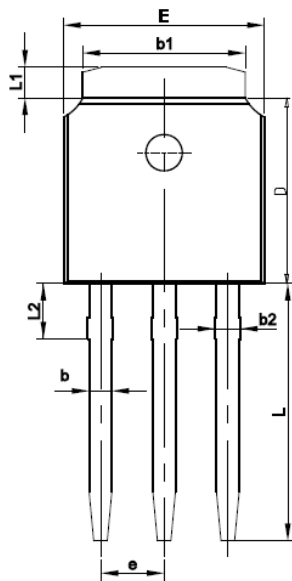




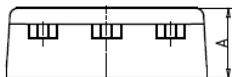
IPAK

3TT8Z/V/C/J/F/U/S/E/F1

单位 Unit : mm



SYMBOL	MM	
	MIN	MAX
A	2.10	2.50
A1	0.87	1.27
b	0.63	0.93
b1	5.13	5.53
b2	0.67	1.00
c	0.40	0.60
D	5.80	6.40
E	6.30	6.90
L	9.10	9.70
e	2.286BSC	
L1	0.82	1.22
L2	0.90	1.20

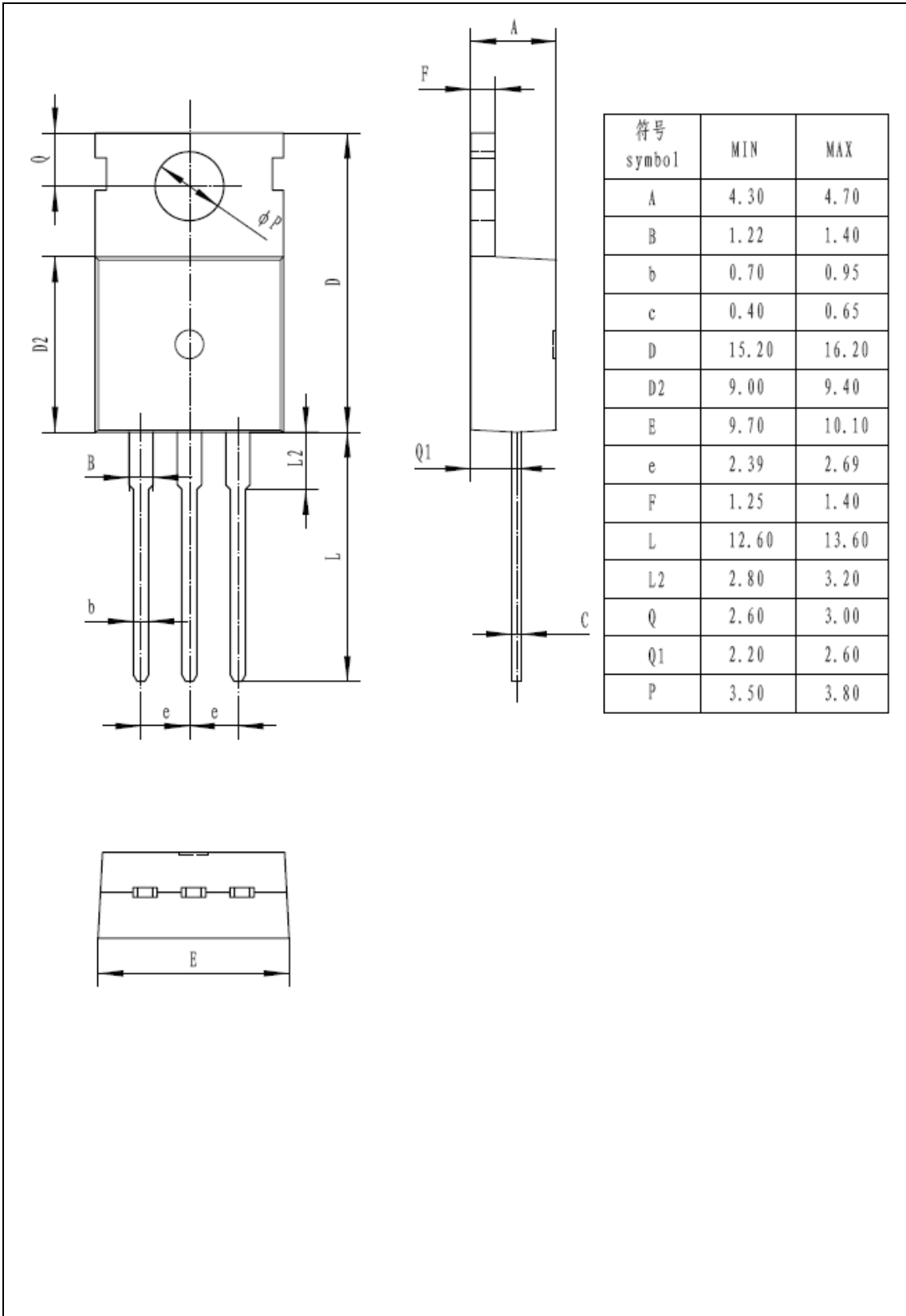




外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

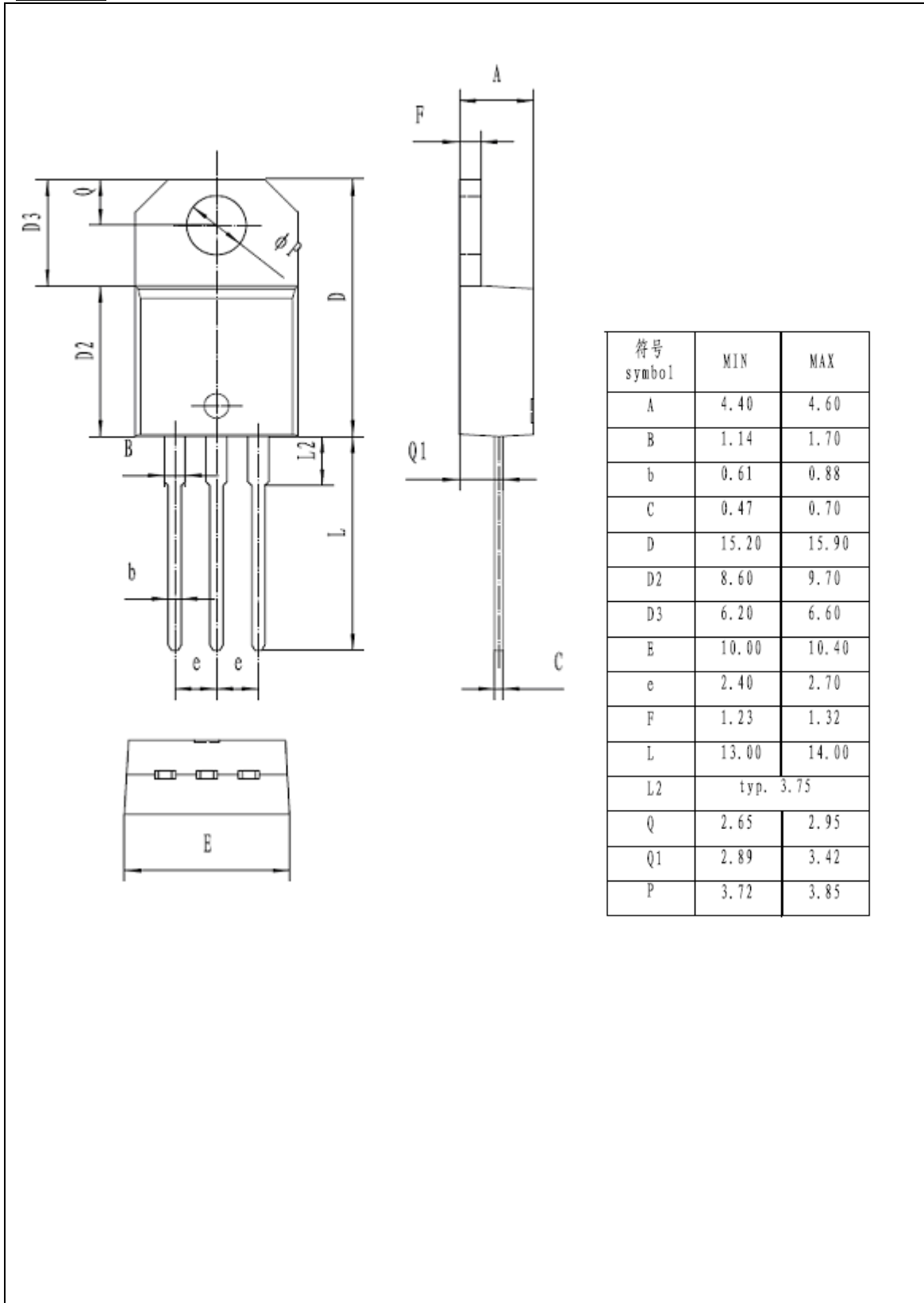




外形尺寸 PACKAGE MECHANICAL DATA

TO-220S

单位 Unit : mm

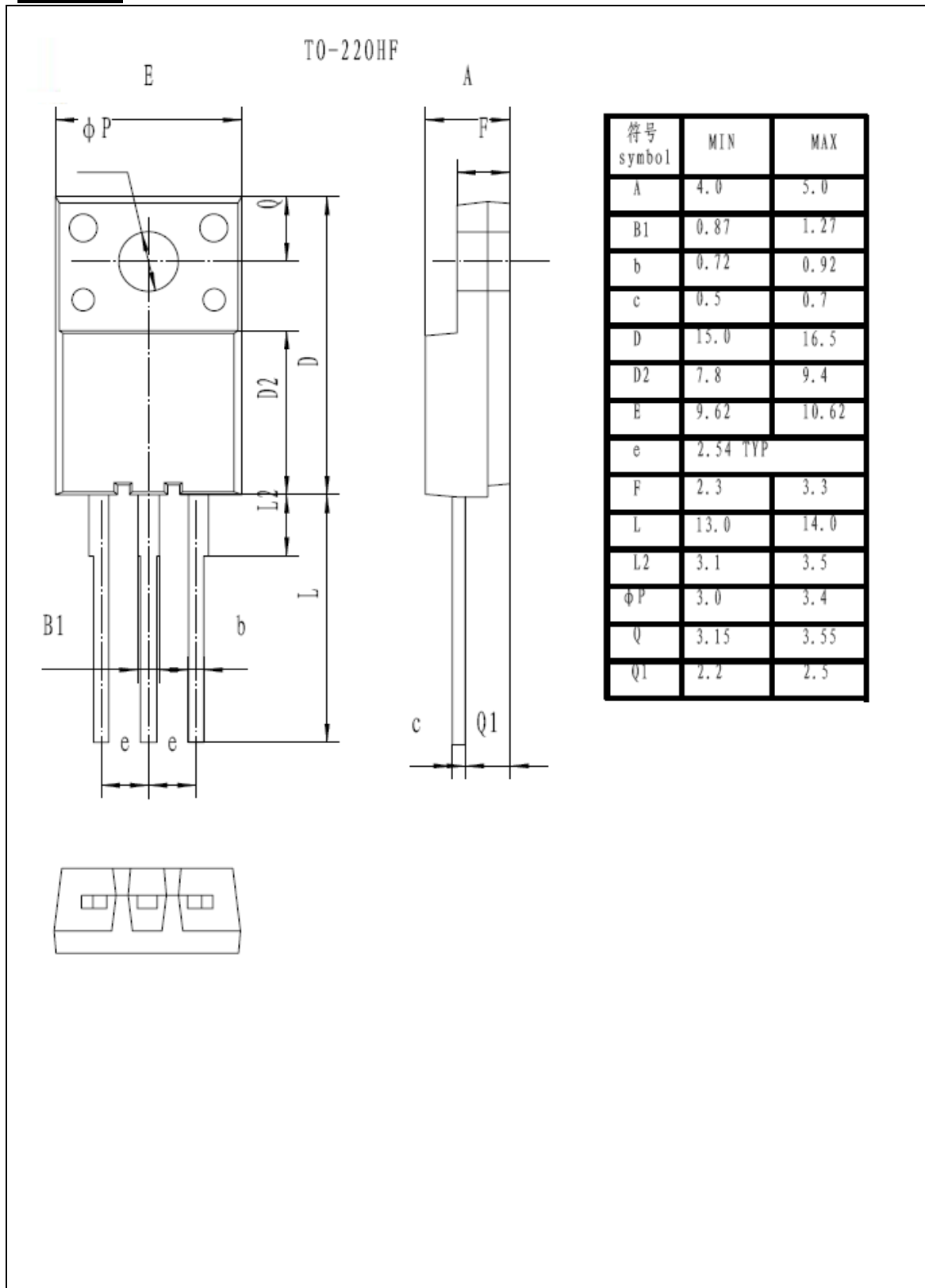




外形尺寸 PACKAGE MECHANICAL DATA

TO-220HF

单位 Unit : mm

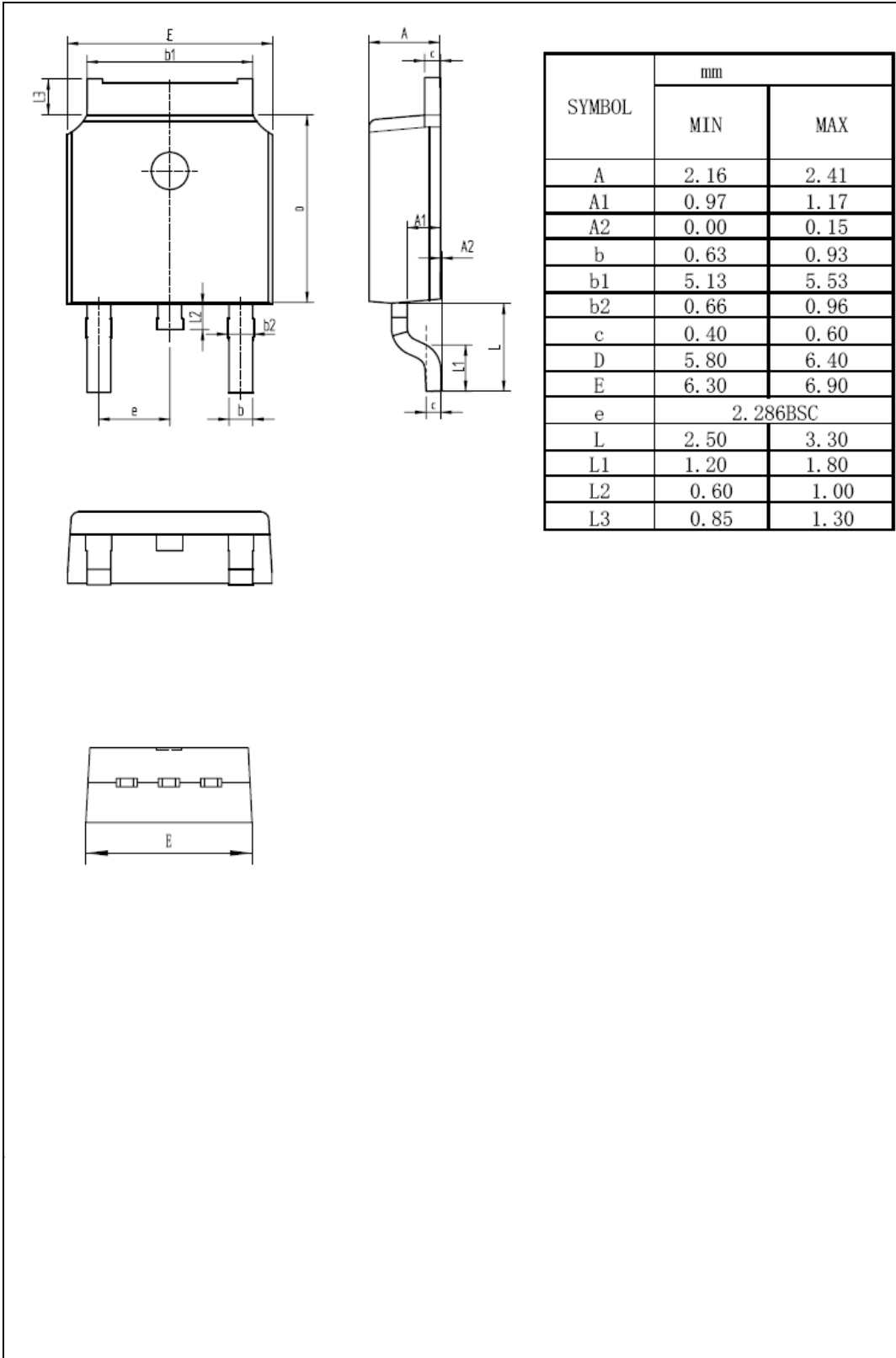




外形尺寸 PACKAGE MECHANICAL DATA

DPAK

单位 Unit : mm

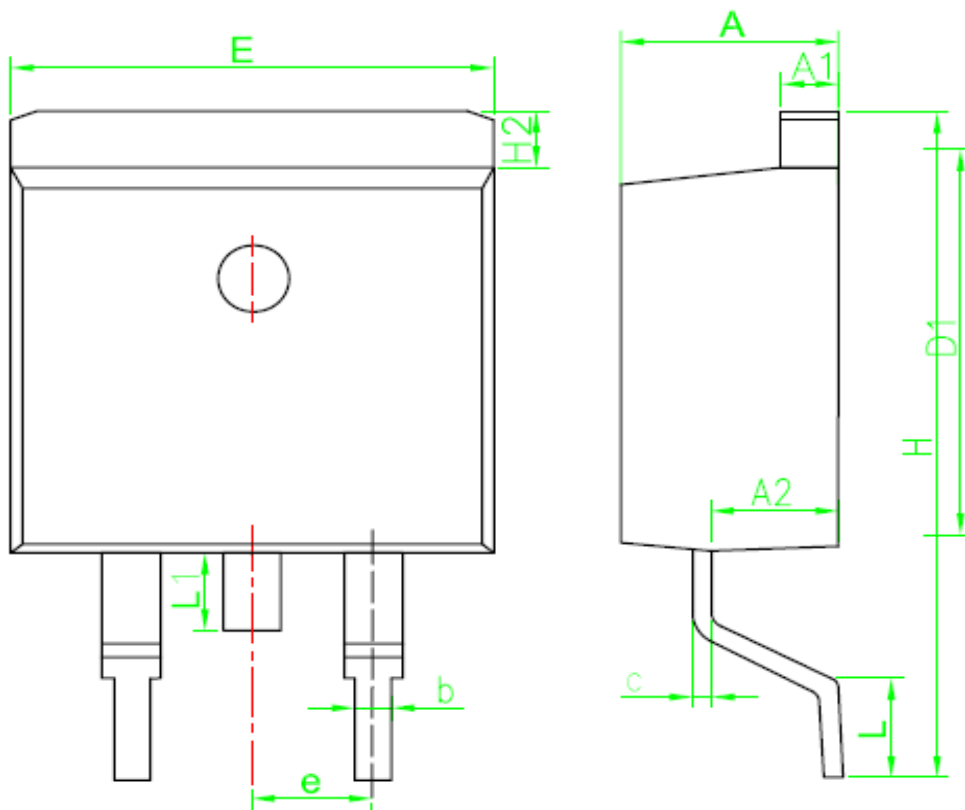




外形尺寸 PACKAGE MECHANICAL DATA

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

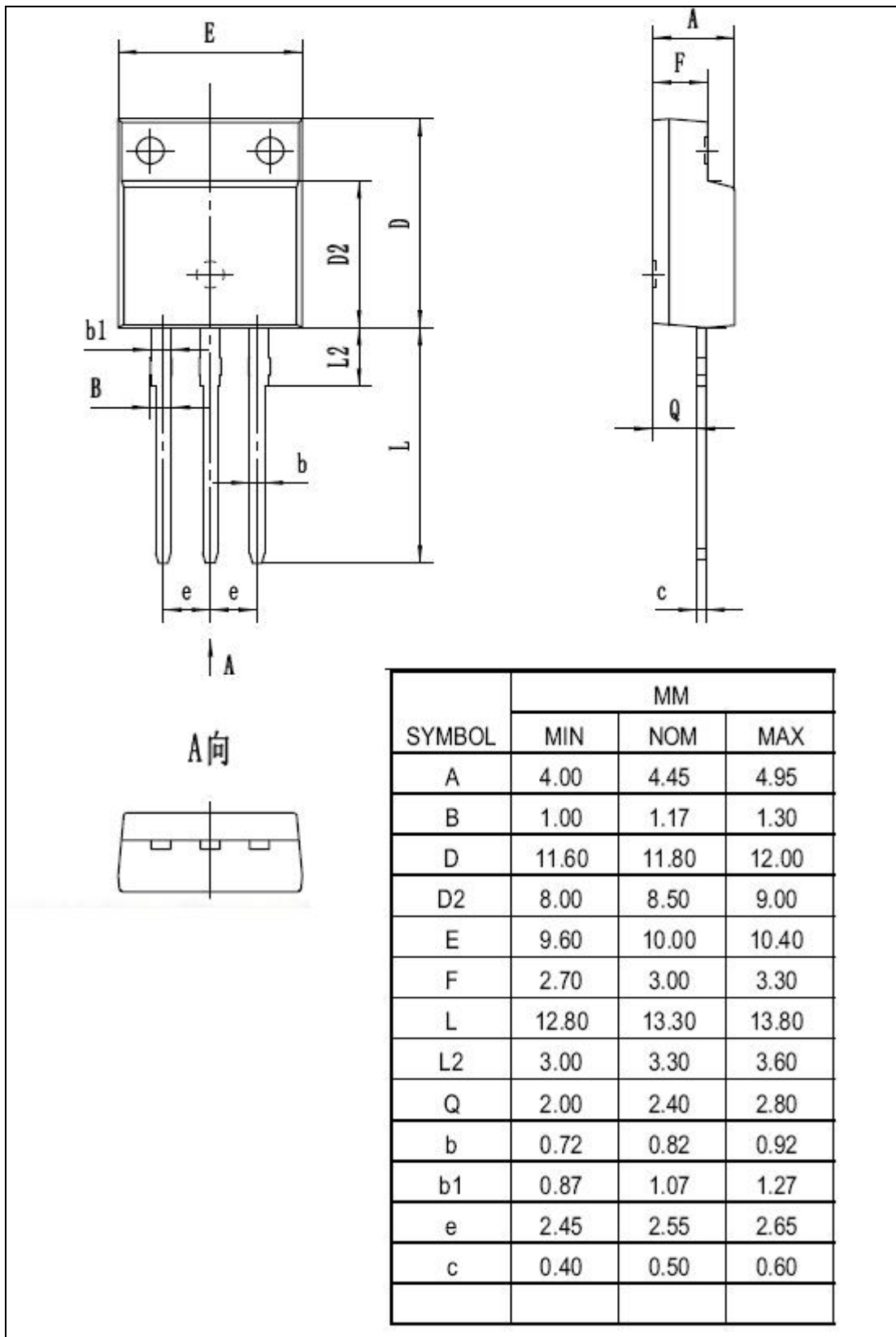




外形尺寸 PACKAGE MECHANICAL DATA

TO-262F

单位 Unit : mm

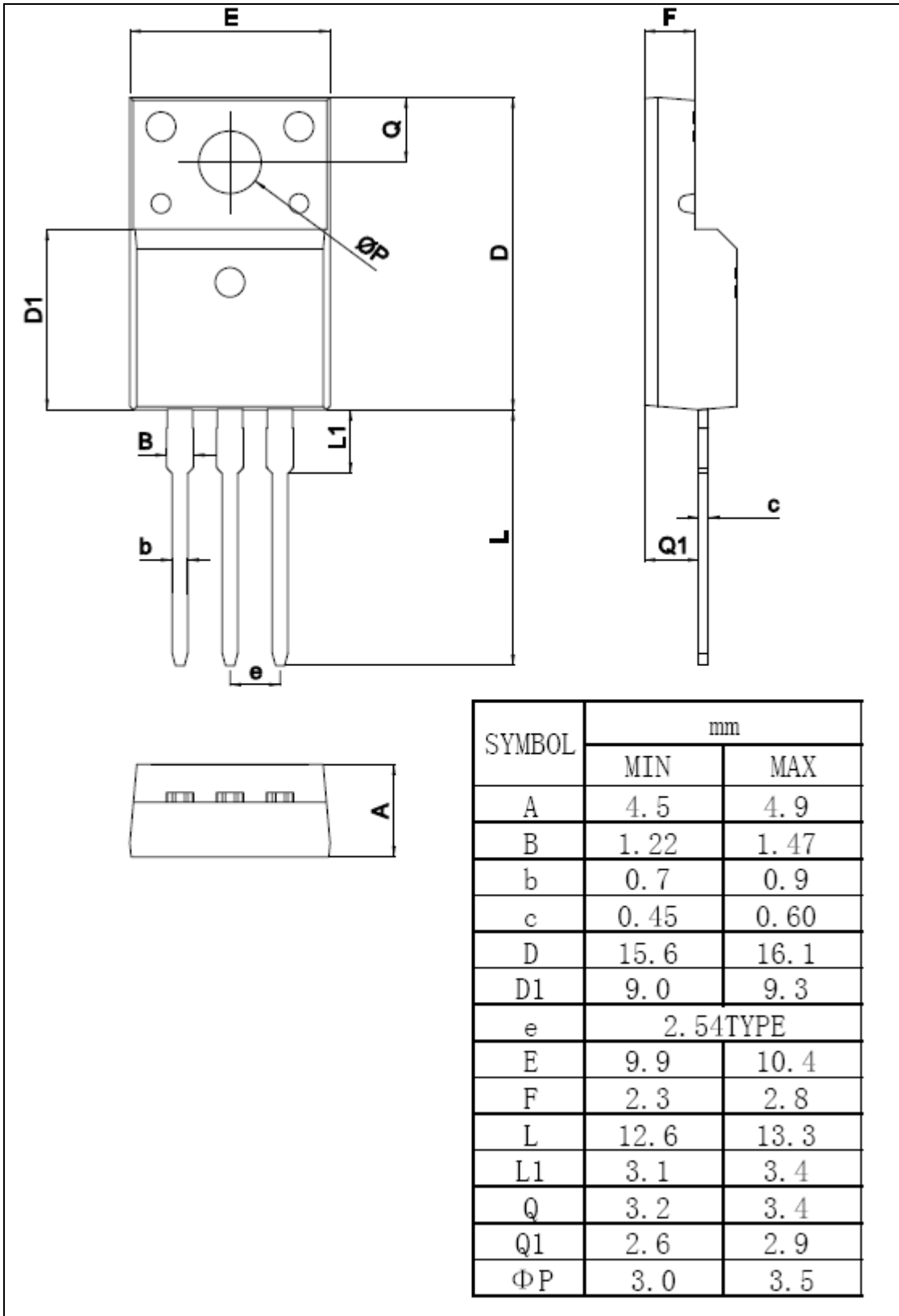




外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm



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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.
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