



3TT25Z/C/S/J/F/AB/F1

主要参数 MAIN CHARACTERISTICS

$I_{T(RMS)}$	25A
V_{DRM}	800V
I_{GT}	50mA

用途

- 交流开关
- 相位控制

APPLICATIONS

- AC switching
- Phase control

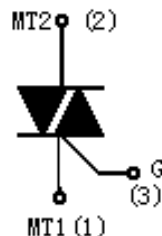
产品特性

- 玻璃钝化芯片，高可靠性和一致性
- 三象限可控硅，触发电流的一致性
- 环保 RoHS 产品

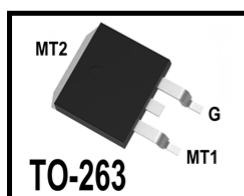
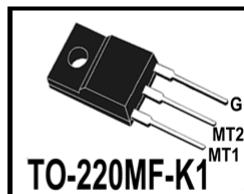
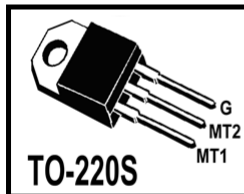
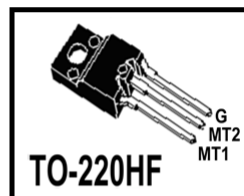
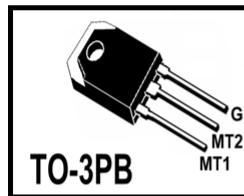
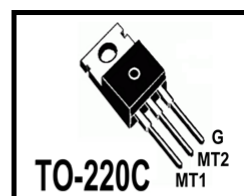
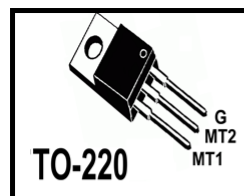
FEATURES

- 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



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		
Halogen-Tube	Halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag		
3TT25C-C-B	3TT25C-C-BR	3TT25C-C-C	3TT25C-C-CR	3TT25C	TO-220C
3TT25J-CB-B	3TT25J-CB-BR	3TT25J-CB-C	3TT25J-CB-CR	3TT25J	TO-220S
3TT25F-FA-B	3TT25F-FA-BR	3TT25F-FA-C	3TT25F-FA-CR	3TT25F	TO-220HF





3TT25Z/C/S/J/F/AB/F1

3TT25F1-F1-B	3TT25F1-F1-BR	3TT25F1-F1-C	3TT25F1-F1-CR	3TT25F1	TO-220MF-K1
3TT25AB-GD-B	3TT25AB-GD-BR	N/A	N/A	3TT25AB	TO-3PB
3TT25S-S-B	3TT25S-S-BR	3TT25S-S-C	3TT25S-S-CR	3TT25S	TO-263
3TT25Z-CA-B	3TT25Z-CA-BR	3TT25Z-CA-C	3TT25Z-CA-CR	3TT25Z	TO-220

概述 GENERAL DESCRIPTION

3TT25Z/C/S/J/F/AB/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-263、TO-220S（引线与散热片绝缘）、TO-220HF（塑料全包封）、TO-3PB、TO-220MF-K1（塑料全包封）。

3TT25Z/C/S/J/F/AB/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-263、TO-220S (internally isolated) 、TO-220HF (plastic envelope) TO-3PB and TO-220MF-K1 (plastic envelope).



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,	25	A
非重复浪涌峰值通态电流 Non- repetitive surge peak on-state current	I_{TSM}	full sine wave , $t=20\text{ms}$	190	A
		full sine wave , $t=16.7\text{ms}$	209	A
	I^2t	$t=10\text{ms}$	180	A^2s
通态电流临界上升率 Repetitive rate of rise of on-state current after triggering	di/dt	$I_{\text{TM}}=30\text{A}$, $I_{\text{G}}=0.2\text{A}$, $di_{\text{G}}/dt=0.2\text{A}/\mu\text{s}$	100	$\text{A}/\mu\text{s}$
峰值门极电流 Peak gate current	I_{GM}		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 ($T_c=25^{\circ}\text{C}$)

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}	$V_{\text{DM}}=V_{\text{DRM}}$, $T_j=25^{\circ}\text{C}$, gate open	-	-	10	μA
		$V_{\text{DM}}=V_{\text{DRM}}$, $T_j=125^{\circ}\text{C}$, gate open	-	-	3.0	mA
峰值通态电压 Peak on-state voltage	V_{TM}	$I_{\text{TM}}=30\text{A}$	-	-	1.7	V
门极触发电流 Gate trigger current	I_{GT}	$V_{\text{DM}}=12\text{V}$, $R_L=100\Omega$, MT1(-),MT2(+),G(+)	5	-	50	mA
		MT1(-),MT2(+),G(-)	5	-	50	mA
		MT1(+),MT2(-),G(-)	5	-	50	mA
门极触发电压 Gate trigger voltage	V_{GT}	$V_{\text{DM}}=12\text{V}$, $R_L=100\Omega$, 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}	$V_{\text{DM}}=12\text{V}$, $I_{\text{GT}}=0.1\text{A}$	-	-	50	mA
擎住电流 Latching current	I_{L}	$V_{\text{DM}}=12\text{V}$, $I_{\text{GT}}=0.1\text{A}$, MT1(-),MT2(+),G(+)	-	-	60	mA
		MT1(-),MT2(+),G(-)	-	-	90	mA
		MT1(+),MT2(-),G(-)	-	-	60	mA
断态临界电压上升率 Rise of off-state voltage	dV/dt	$V_{\text{DM}}=67\% V_{\text{DRM(MAX)}}$, $T_j=125^{\circ}\text{C}$, gate open	1000	-	-	V/ μS
门极开通时间 Gate controlled turn-on time	tgt	$I_{\text{TM}}=30\text{A}$, $V_{\text{DM}}=V_{\text{DRM(MAX)}}$, $I_{\text{G}}=0.1\text{A}$, $dI_{\text{G}}/dt=5\text{A}/\mu\text{S}$	-	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	$R_{\text{th(j-c)}}$	full cycle(TO-220C)			1.0	$^{\circ}\text{C}/\text{W}$
		full cycle(TO-220S)			1.8	$^{\circ}\text{C}/\text{W}$
		full cycle(TO-220HF/TO-220MF-K1)			2.8	$^{\circ}\text{C}/\text{W}$
		full cycle(TO-3PB)			0.6	$^{\circ}\text{C}/\text{W}$

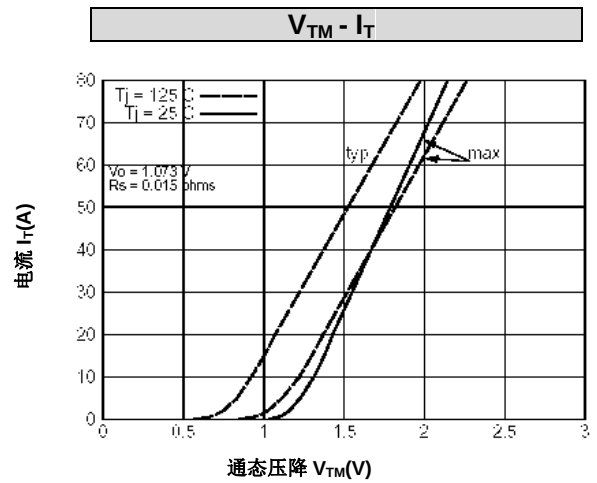
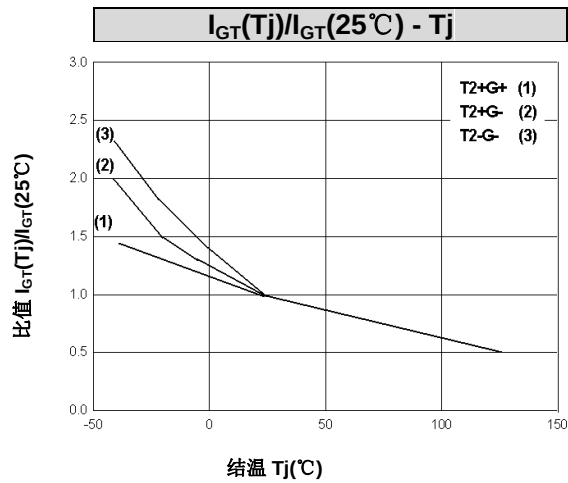
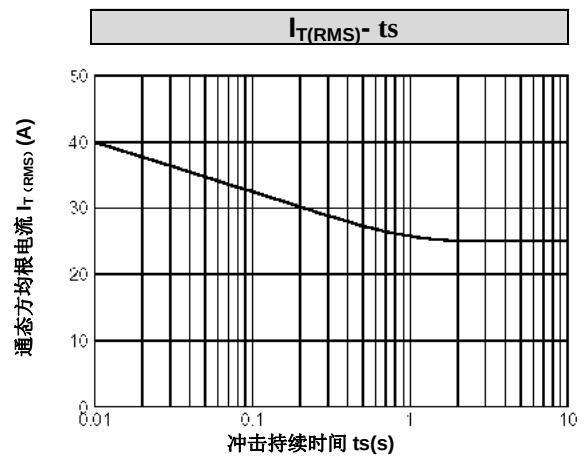
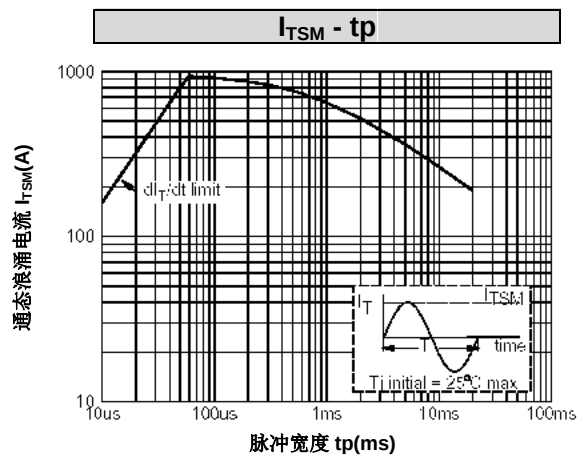
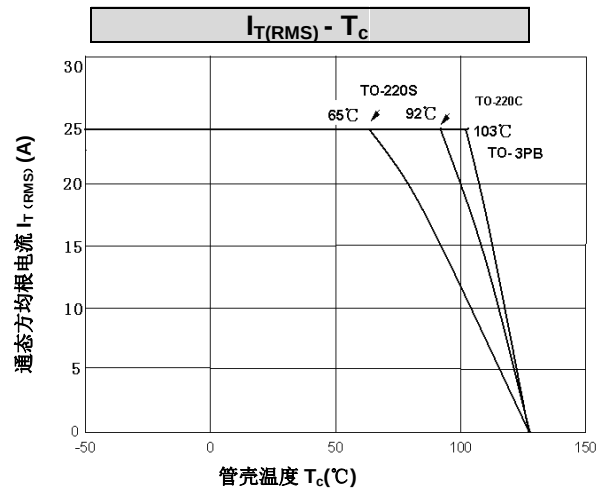
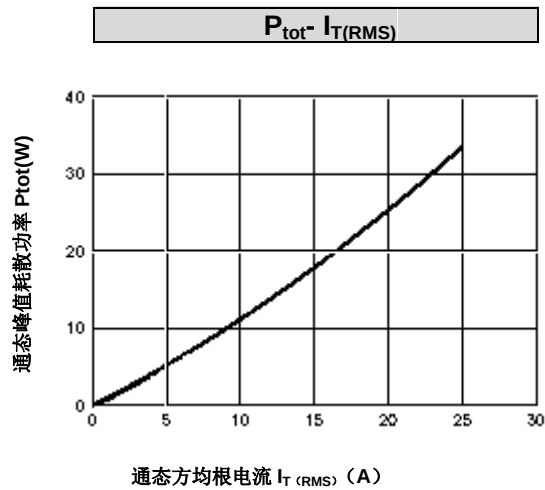
电绝缘特性 ELECTRICAL ISOLATION

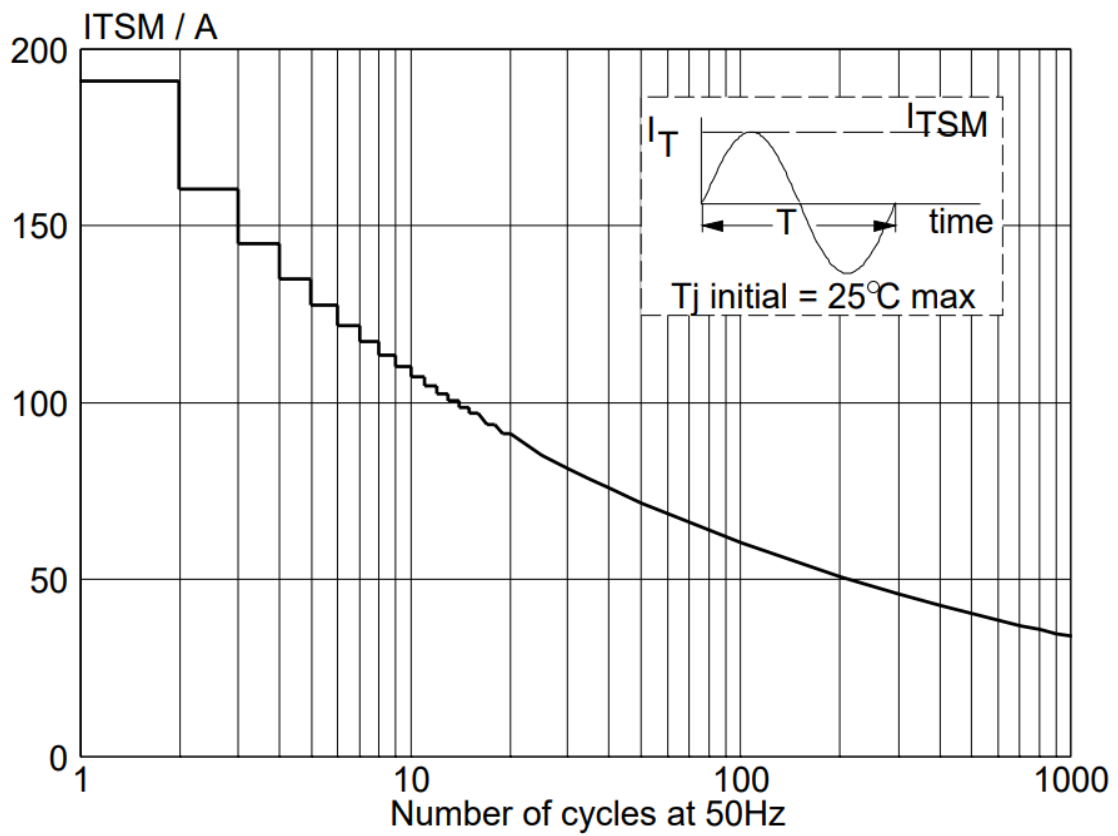
项 目 Parameter	符 号 Symbol	条 件 Condition	数 值 Value	单位 Unit
绝缘电压 Isolation voltage	V_{ISOL}	1 minute, leads to mounting tab TO-220S	2000	V
		1 minute, leads to mounting tab (TO-220HF/TO-220MF-K1)	2000	V





特征曲线 ELECTRICAL CHARACTERISTICS (curves)



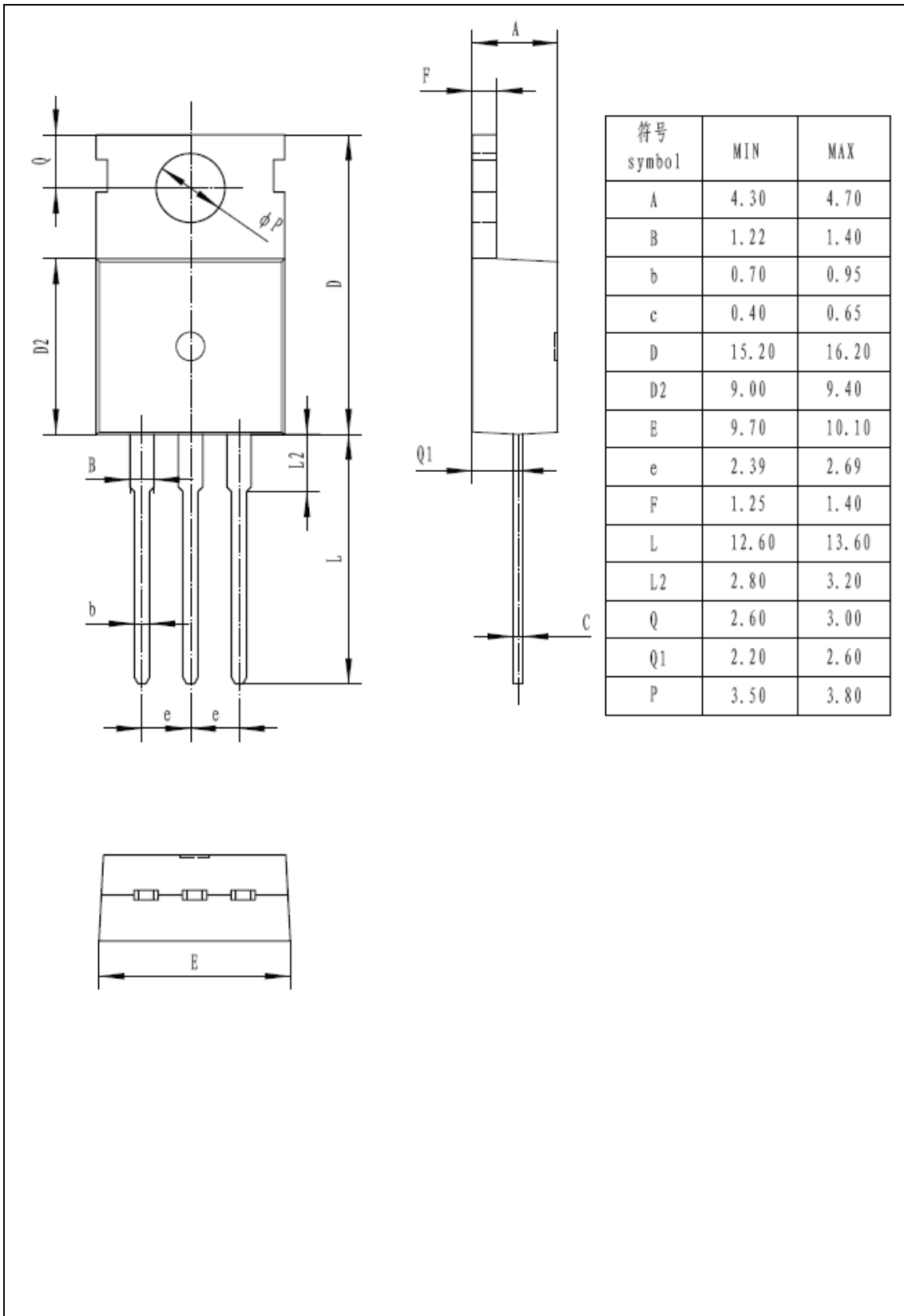




外形尺寸 PACKAGE MECHANICAL DATA

TO-220C

单位 Unit : mm

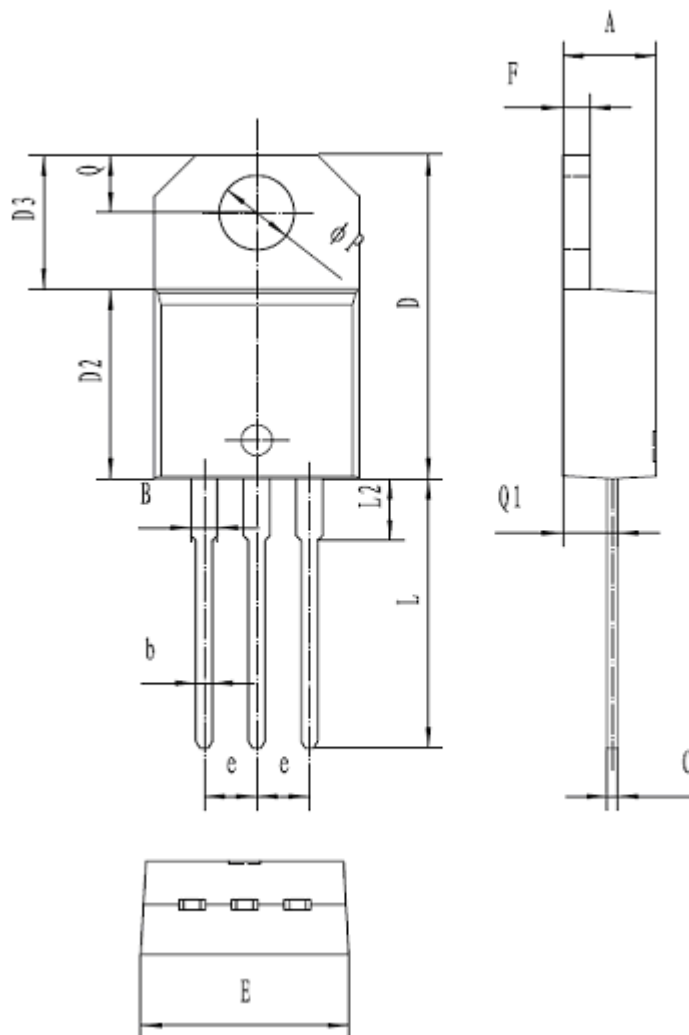




外形尺寸 PACKAGE MECHANICAL DATA

TO-220S

单位 Unit : mm



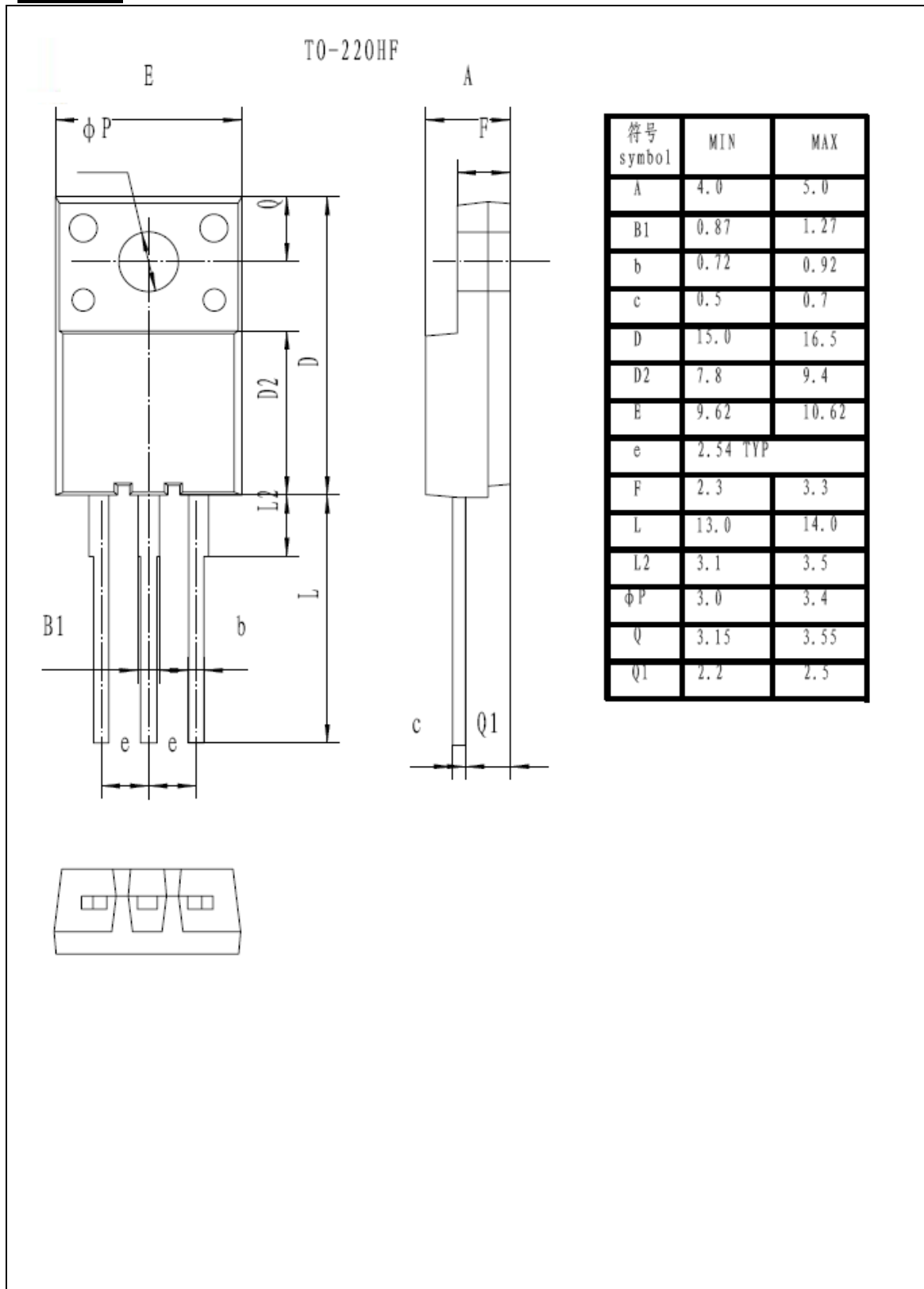
符号 symbol	MIN	MAX
A	4.40	4.60
B	1.14	1.70
b	0.61	0.88
C	0.47	0.70
D	15.20	15.90
D2	8.60	9.70
D3	6.20	6.60
E	10.00	10.40
e	2.40	2.70
F	1.23	1.32
L	13.00	14.00
L2	typ. 3.75	
Q	2.65	2.95
Q1	2.89	3.42
P	3.72	3.85



外形尺寸 PACKAGE MECHANICAL DATA

TO-220HF

单位 Unit : mm

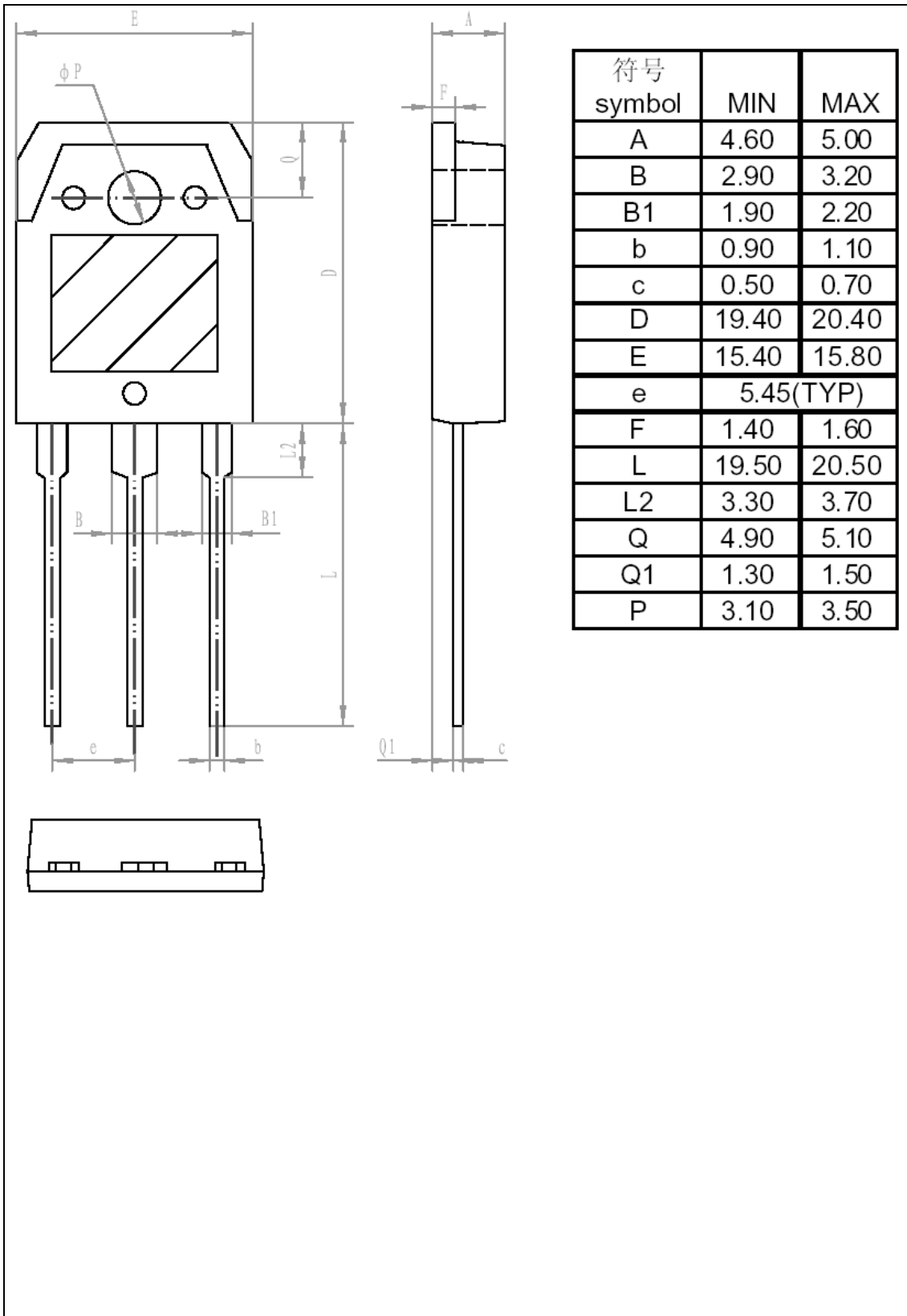




外形尺寸 PACKAGE MECHANICAL DATA

TO-3PB

单位 Unit : mm

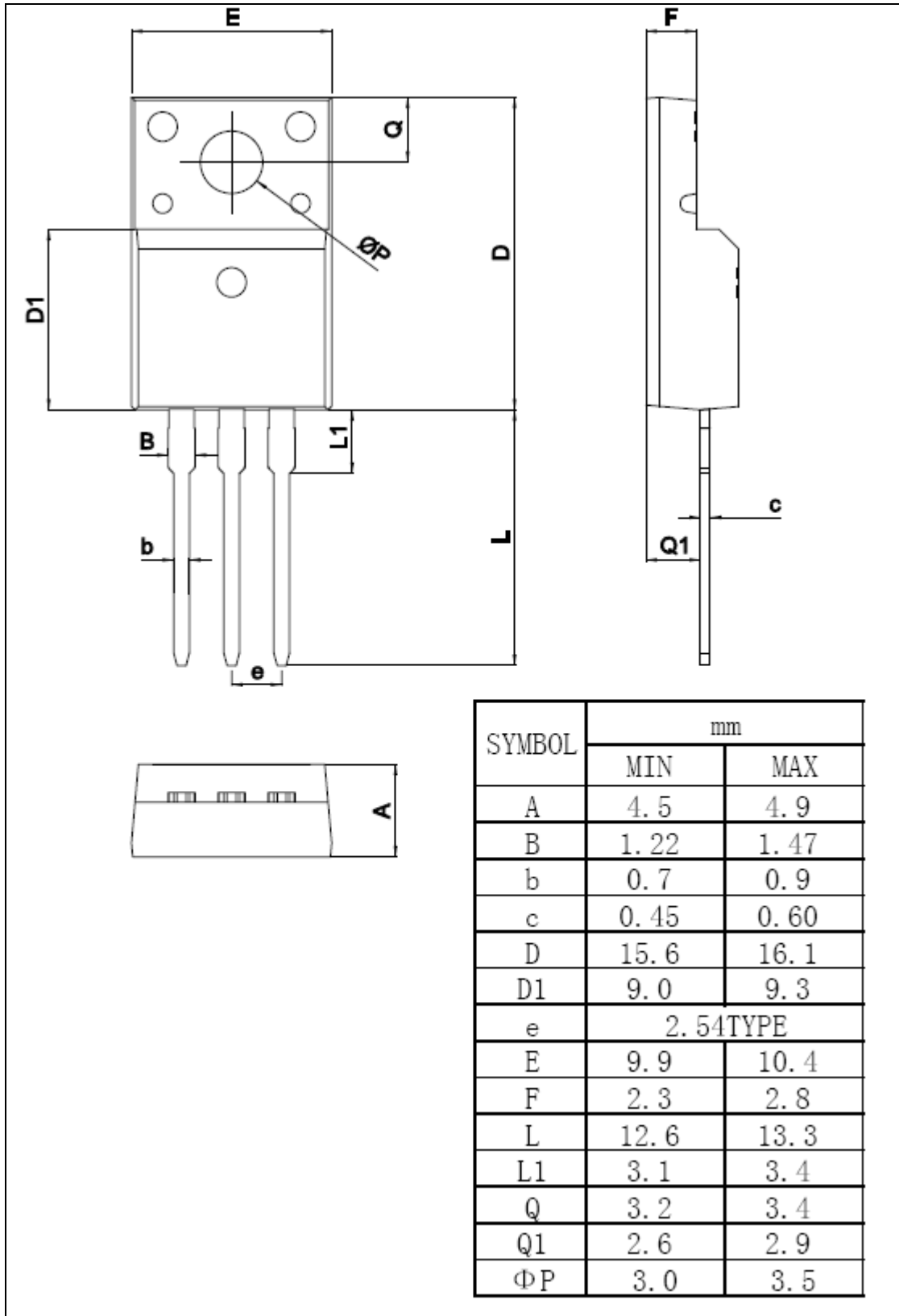




外形尺寸 PACKAGE MECHANICAL DATA

TO-220MF-K1

单位 Unit : mm

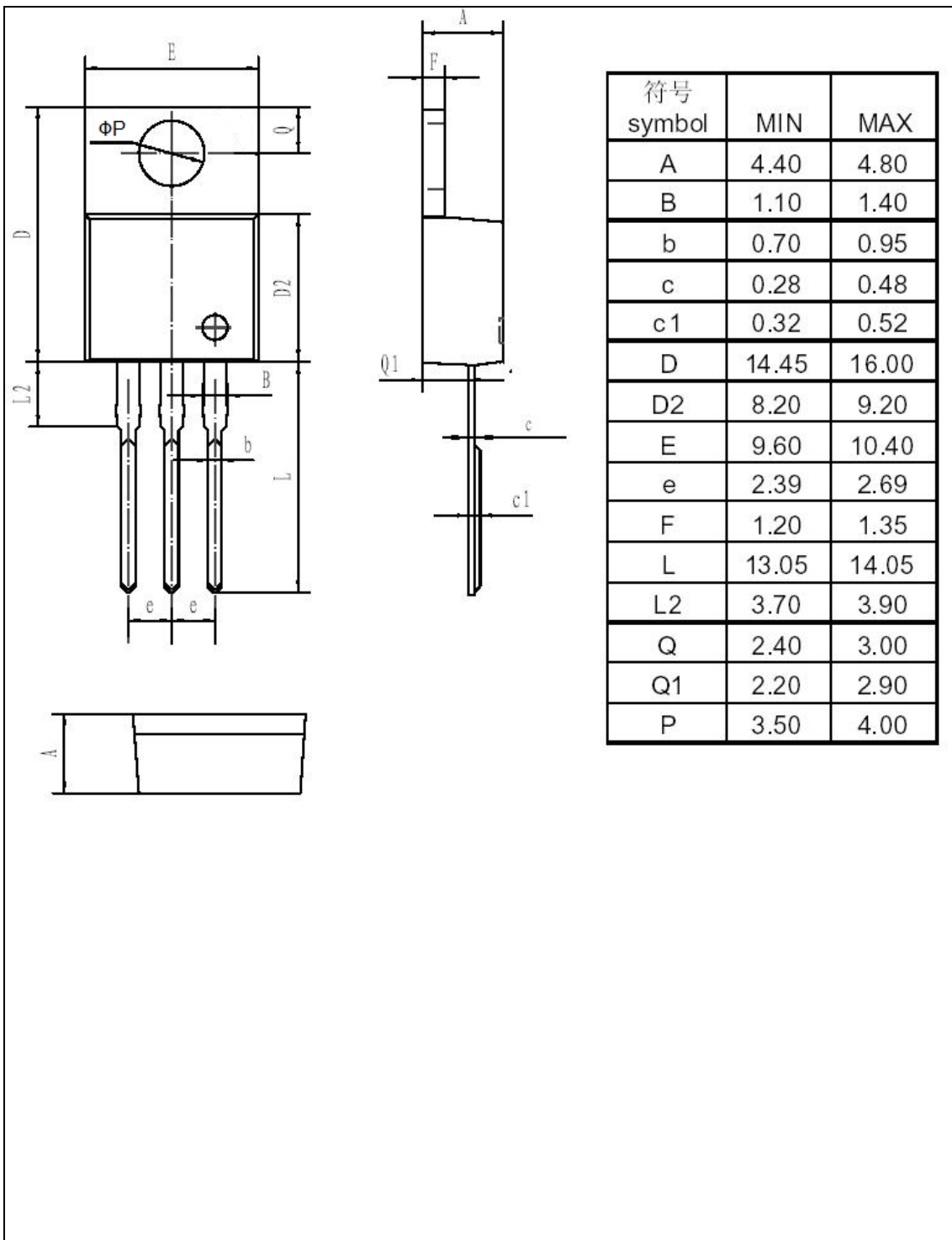




外形尺寸 PACKAGE MECHANICAL DATA

TO-220

单位 Unit : mm

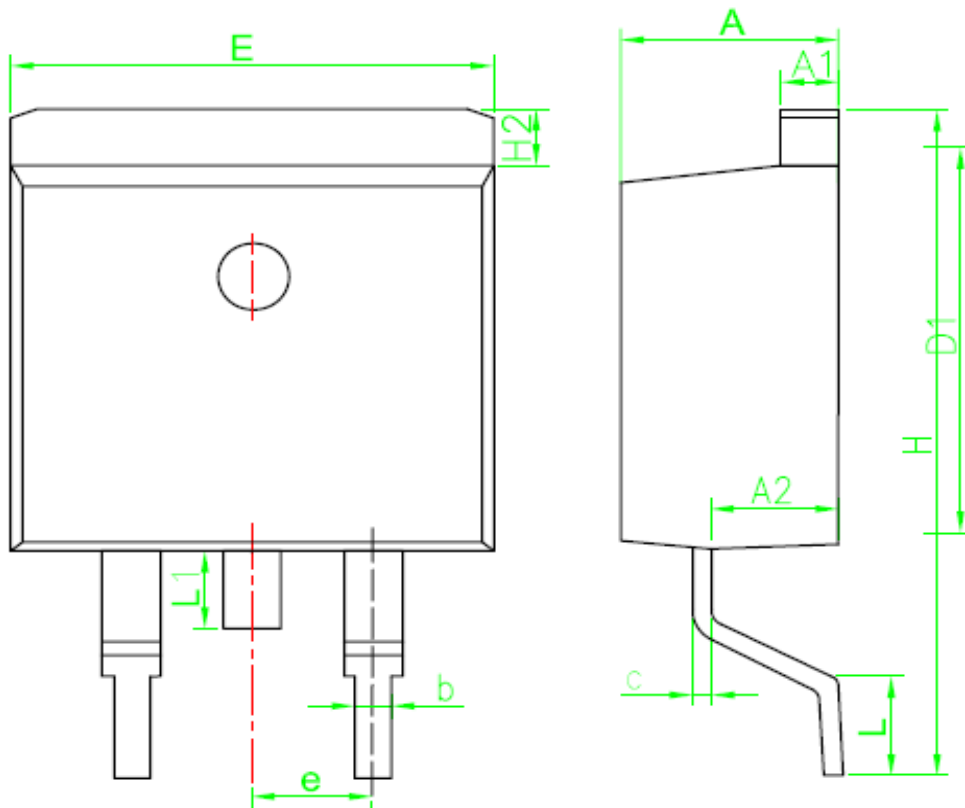




外形尺寸 PACKAGE MECHANICAL DATA

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



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