

SPECIFICATION

产品规格书

FPE PART NO. :	KP4532S-151L		
DESCRIPTION:	CHIP TRANSFORMER		
 广东美信科技股份有限公司 GUANGDONG MISUN TECHNOLOGY CO., LTD TEL: (86)769-86761589 86762589 FAX: (86)769-86761549 广东省东莞市企石镇新南金湖一路 3 号 No.3, Jinhu 1st Road, Xinnan, Qishi Town, Dongguan City, Guangdong Province 为电磁赋能，创工业至美 Enable electromagnetism, Create ultimate beauty		FPE APPROVAL (公司承认章)	
			
		DRAWN BY:	<i>Jingwei XU</i>
		CHECKED BY:	<i>Junmao Zhang</i>
		APPROVAL BY:	<i>Angus Shi</i>

1. 特征 Features

- ◆ Meets IEEE 802.3af/at Standards.
- ◆ Designed For 2.5/5G BASE-T Applications, Surface Mount Type.
- ◆ Operating Temperature Range: -40°C to +85°C.
- ◆ 720mA Current Capability



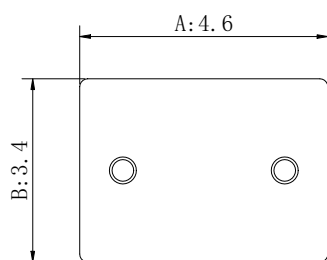
2. 电性规格 Specification

ELECTRICAL SPECIFICATIONS @25°C

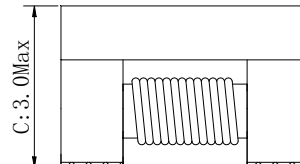
- ◆ Return Loss(回波损耗)
-18dB Min@1-40MHz , -10dB Min@40-250MHz
- ◆ Insertion Loss(插入损耗):
-0.9dB Max@1-100MHz , -2.0dB Max@100-250MHz

Part Number	Turns Ratio (±5%)	OCL(uH Min) @100KHz,0.1V With 8mA DC Bias	Lk(uH Max) @100KHz,0.1V	CWW(pF Max) @100KHz,0.1V	DCR (Ω Max)	HI-POT (Vrms) AC, 1mA, 60Sec
KP4532S-151L	1CT:1CT	150	0.5	35	2.0	1500V

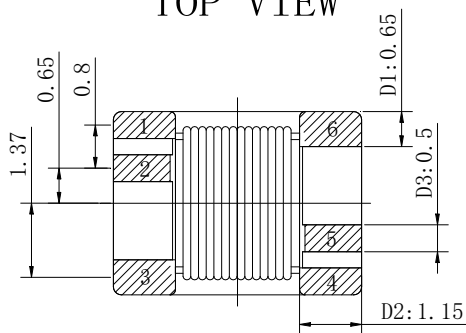
3. 外形尺寸 Dimension



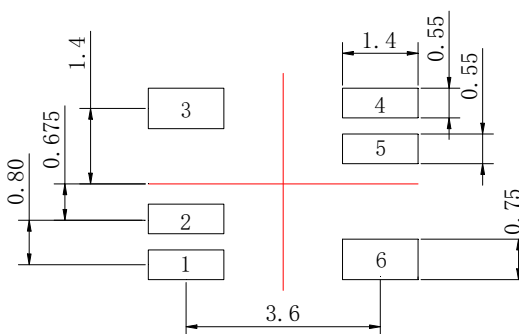
TOP VIEW



FRONT VIEW



BOTTOM VIEW



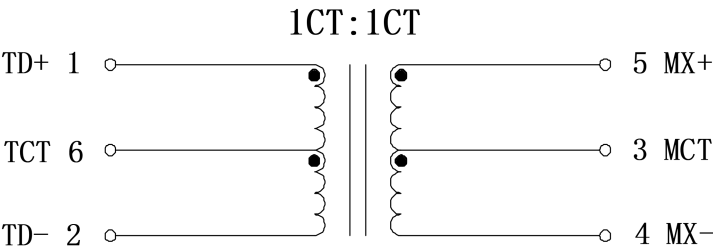
SUGGEST LAYOUT

Dimensions in mm

(Steel plate thickness 0.1mm Typ)

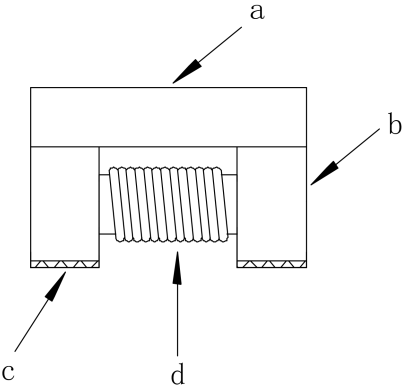
A	B	C	D1	D2	D3
4.6±0.25	3.4±0.25	3.0Max	0.65±0.10	1.15±0.10	0.5±0.10

4.电路图 Schematic Diagram



5.材料 Materials

No.	Description	Specification
a.	Upper Plate	Ferrite
b.	Core	Ferrite Core
c.	Termination	Ag/Ni/Sn
d.	Wire	Enameled Copper Wire



6. 样品测试数据 Sample Test Data

SAMPLE TEST DATA							
PARAMETER:	OCL	OCL	DCR	DCR	CP	CP	HI-POT (Vrms)
UNIT:	uH	uH	Ω	Ω	pF	pF	V
CONDITION:	100kHz/0.1V	100kHz/0.1V	DC	DC	100kHz/0.1V	100kHz/0.1V	AC, 1mA, 60Sec
PIN NO.:	1-2	4-5	1-2	4-5	1-5	2-4	3-6
MAX SPEC.:			2	2	35	35	
MIN SPEC.:	150	150					1500
AVERAGE =	175.6	177.1	1.17	1.17	21.9	22.0	-
STD DEV =	2.2	1.9	0.01	0.01	0.3	0.2	-
MAX =	179.2	179.2	1.18	1.18	22.3	22.4	-
MIN =	172.2	172.1	1.15	1.15	21.5	21.7	-
Max spec for 1.33 Cpk			1.20	1.22	22.9	22.9	-
Min spec for 1.33 Cpk	167.0	169.5					-
Cpk for Max spec			34.52	21.71	17.3	18.6	-
Cpk for Min spec	4.0	4.8					-
DATA -----							
1	178	178	1.17	1.15	22.1	22.2	PASS
2	178	178	1.16	1.18	21.7	22.3	PASS
3	173	178	1.17	1.18	22.3	22.0	PASS
4	179	177	1.17	1.15	21.5	21.9	PASS
5	172	178	1.16	1.16	21.9	21.8	PASS
6	176	177	1.16	1.16	22.0	22.2	PASS
7	174	179	1.18	1.18	22.1	21.8	PASS
8	175	172	1.17	1.15	22.0	22.4	PASS
9	175	176	1.16	1.18	21.5	21.7	PASS
10	176	177	1.15	1.17	22.2	21.8	PASS

7. 可靠性和试验条件 Reliability and Test Condition

序号	试验项目	参考标准	试验条件	判断依据	结果判定
1	可焊性	J-STD-002	8 小时蒸汽老化, 助焊剂类型: ROL0, 温度: 245℃。时间: 2.5s	1. 试验前后外观无可见物理性异常; 2. 端子表面焊锡覆盖率大于 95%。	PASS
2	低温	IEC-68-2-1	温度: -40℃, 持续时间: 96h。	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
3	高温	IEC-68-2-2	温度: 125℃, 持续时间: 96h。	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
4	振动	MIL-STD-202 method 204	加速度: 10g; 频率: 10~55~10 Hz; 12 个周期: 方向: 3 (X、Y、Z) 个方向, 每个方向 20 分钟 ;	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
5	跌落	IEC68-2-32	高度: 1000mm; 位置: 一角、三棱、六面 (共 10 次)	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
6	推力	GB/T16512 方法 Ua1	对器件侧面均衡施加 20N 作用力, 保持 60s	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
7	盐雾	EIA-364-26B ITEM B	盐雾浓度: 5%± 1%, pH 值: 6.5~7.2; 试验温度: 35℃, 时间: 16h:	1. 试验前后外观无可见物理性异常。 2. 试验后无明显生锈产生等不良现象。	PASS
8	耐焊接热	J-STD-002	回流焊三次, 峰值温度: 260℃。	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
9	湿热	IEC68-2-67	温度: 40℃, 相对湿度: 95%RH, 持续时间: 96h。	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS
10	冷热冲击	IEC68-2-67	低温: -55℃, 高温: 125℃, 持续时间: 15min; 温度转换时间: ≤5min; 循环数: 100	1. 试验前后外观无可见物理性异常; 2. 电性能满足规格书要求。	PASS

8. 焊接和安装 Soldering and Mounting

8-1. Soldering

Mildly activated rosin fluxes are preferred. FPE terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

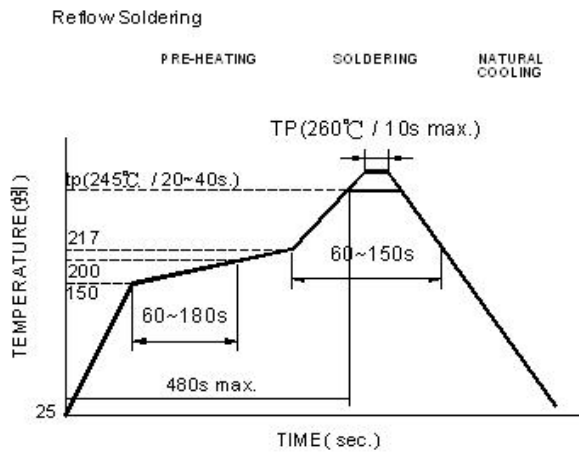
8-1.1 Solder re-flow:

Recommended temperature profiles for re-flow soldering in Figure 1.

8-1.2 Soldering Iron(Figure 2):

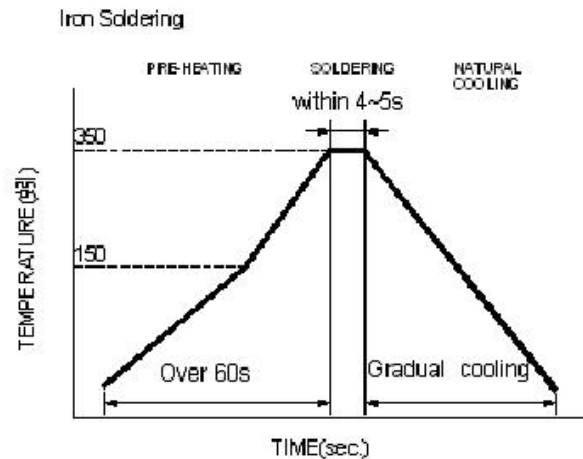
Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- Preheat circuit and products to 150°C
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 350°C tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 4~5 sec.



Reflow times: 3 times max.

Fig.1

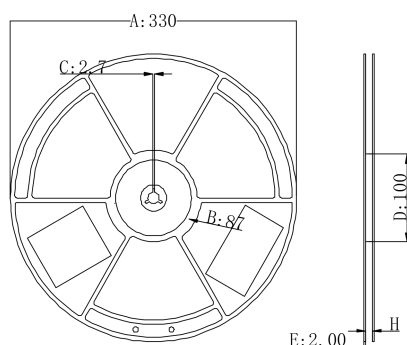


Iron Soldering times: 1 times max.

Fig.2

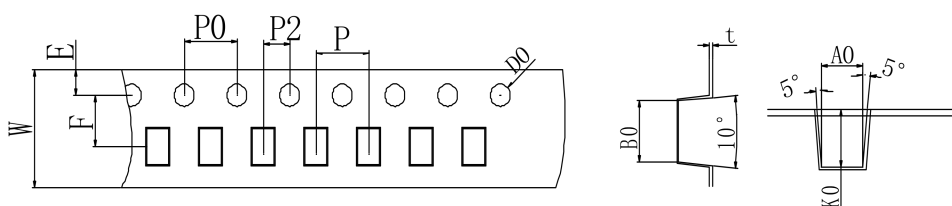
9. 包装信息 Packaging Information

9-1. Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	H(mm)
13"x12mm	330±2	87±1	2.7±0.5	100±1	1.9±0.2	12.2±0.5

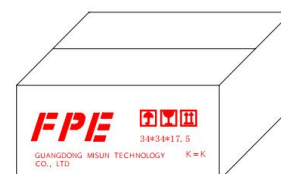
9-2. Tape Dimension 12mm



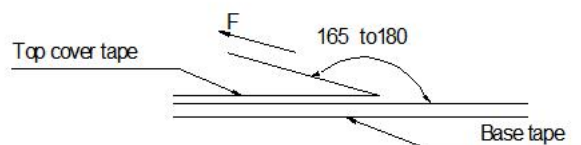
W(mm)	E(mm)	F(mm)	P0(mm)	P2(mm)	P(mm)	DO(mm)	t(mm)	B0(mm)	A0(mm)	K0(mm)
12.00±0.10	1.75±0.10	3.50±0.10	4.00±0.10	2.00±0.10	8.00±0.10	1.50±0.10	0.3±0.05	5.00±0.10	3.65±0.10	3.05±0.10

9-3. Packaging Quantity

Chip/Reel	Carton
2500	20000



9-4. Tearing Off Force



The force for tearing off cover tape is 15 to 120 grams in the arrow direction under the following conditions.

Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Application Notice

·Storage Conditions

To maintain the solderability of terminal electrodes:

1. FPE products meet IPC/JEDEC J-STD-020D standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40°C and 60% RH.
3. Recommended products should be used within 12 months form the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

·Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.