

Thin Film Fixed Attenuator

GEA****TC/TD系列

GEA****TC/TD SERIES



- 衰减电路由薄膜一体形成，特性优异。
- 衰减量的温度系数小，对于温度变化的稳定性高。
- 2012尺寸和3216尺寸两个尺寸。
- 阻抗变换等订制品也可对应。

- Attenuation circuit integrated on single chip through thin film technology achieves excellent characteristics over high Frequency band.
- The temperature coefficient of attenuation is small and has high stability against temperature change.
- A lineup of 2 sizes from 2012 size to 3216 size.
- Custom products such as impedance conversion are also available.

1. 构造 Structure

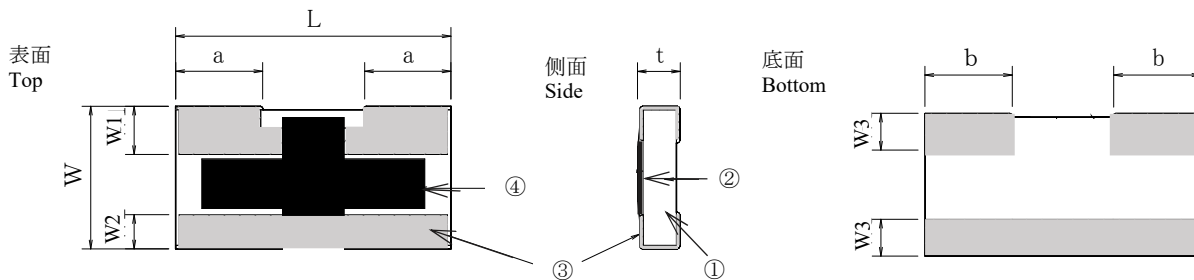
□外形尺寸 Dimensions

尺寸 Size	尺寸规格 Dimensions (mm)				
	W	L	a	b	t
GEA2012TC	1.25 ± 0.20	2.0 ± 0.20	0.5 ± 0.15	0.6 ± 0.20	0.5 ± 0.20
GEA3216TC/TD	1.6 ± 0.20	3.2 ± 0.20	1.0 ± 0.25	1.0 ± 0.20	0.5 ± 0.20

尺寸 Size	尺寸规格 Dimensions (mm)		
	W1	W2	W3
GEA2012TC	0.4 ± 0.20	0.4 ± 0.20	0.35 ± 0.15
GEA3216TC/TD	0.55 ± 0.25	0.4 ± 0.25	0.4 ± 0.20

□构造 Structure

名称	Construction	使用材质	Material
①基板	Substrate	96% 氧化铝	Al ₂ O ₃ 96%
②电阻体	Resistor element	薄膜	thin film
③电极	Electrode	Sn镀层	Sn Plating
④保护膜	Outer protective coat	环氧树脂	Epoxy Resin



2. 规格 Specification

系列	额定功率 ※	尺寸		阻抗	衰减量	频率范围	dB ±		VSWR		包装
Series	Power Rating※	(mm)	(inch)	Impedance	Attenuation	Frequency Range	~5GHz	~10GHz	~5GHz	~10GHz	Packaging
GEA2012TC	0.100W	2012	0805	50Ω	0~10DB	DC~10GHz	± 0.3dB	± 0.3dB	1.3	1.3	5000pcs/reel
GEA3216TC	0.125W	3216	1206	50Ω	0~10DB	DC~3GHz	± 0.3dB (~3GHz)		1.3 (~3GHz)		5000pcs/reel
GEA3216TD	0.125W	3216	1206	75Ω	1DB	DC~3GHz	± 0.3dB (~3GHz)		1.3 (~3GHz)		5000pcs/reel

※使用温度超过70℃会发生功率下降。

※Operating temperature exceeding 70 °C is to be subject to the derating curve under separate sheet.

※本产品目录的规格如有变更，恕不另行通知。

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3. 命名规则 Part Numbering

G	E	A	3	2	1	6	T	C	0	3	D	B	T	5	X	X	X
系列名 Series name		尺寸、特性 Formfactor, Performance		类型 Type		阻抗 Impedance		衰减量 Attenuation		包装 Packaging		电极镀层 Terminal Plating		等级 Grade			
GEA : 薄膜 固定減衰器 Thin Film Fixed Attenuator		尺寸 Size 2012 : 3216 :	额定功率 Rated Power 0.100W 0.125W	T : 薄膜 Thin Film		C : 50Ω D : 75Ω		03DB : 3dB 0~10DB (1dB Step)		T5 : 5Kpcs/卷带 5Kpcs/reel		X : 锡 X : Sn		XX : 常规 XX : General			

4. 性能 Reliability Test

项目 Parameter	实验条件 Conditions	规格值 Specification	
		衰减量 Attenuation	阻抗 Impedance
短时间过负荷 Short Time Overload	额定电压的2.5倍施加5秒。 2.5 times the rating voltage for 5sec.	±0.02 dB	±0.2%
额定负荷寿命 Load Life	70±3℃ 的环境中施加额定电压 90分钟后停止30分钟，循环1000小时。 At the temperature of 70±3℃, rated voltage for 90 mins, and off for 30 mins. Repeated for 1000 hours.	±0.04 dB	±0.5%
耐湿负荷寿命 Moisture Load Life	60±2℃ 90~95%RH的环境中施加额定电压 90分钟后停止30分钟，循环1000小时。 At the temperature of 60±2℃ with relative humidity of 90% to 95%, rated voltage for 90 mins, and off for 30 mins. Repeated for 1000 hours.	±0.04 dB	±0.5%
温度循环 Thermo Shock	[-55℃ 30分钟→室温 3分钟→+125℃ 30分钟 →室温 3分钟]进行5个循环。 [-55℃ 30 mins → R.T. 3 mins → +125℃ 30 mins → R.T. 3 mins] This cycle shall be continued for 5 times.	±0.02 dB	±0.2%
焊接耐热性 Resistance to Soldering Heating	260±5℃ 的锡膏中浸沾10±1秒。 Dip into solder at 260±5℃ for 10±1 seconds.	±0.02 dB	±0.2%
电极强度 Substrate Bending	基板：玻璃环氧树脂 t=1.6mm 弯曲幅度：3mm 支点间距：90mm Substrate: Glass-Epoxy t=1.6mm Bend width : 3mm Span between fulcrums : 90mm	±0.02 dB	±0.2%
上锡性 Solderability	245±5℃ 的锡膏中浸沾3±0.5秒。 Dip into solder at 245±5℃ for 3±0.5 seconds	上锡处占电极面积的 95% 以上 Solder coverage more than 95%.	
绝缘电阻 Insulation Resistance	DC500V 1 分钟 DC500V. 1 minute.	> 1000MΩ	

备注：衰减量按照直流测试方法进行。

Remark: Using direct-current to measure attenuation.

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