

低阻值合金电流采样贴片电阻-YLR系列

Low Resistance Metal Strip Chip Resistors-YLRseries



特征 Features

阻值范围 Resistance value	0.5~200mΩ
精度 Tolerance	±0.5%、±1%、±2%、±5%
功率 Power	1~7W
温度系数 Temperature coefficient	±50ppm/°C、±75ppm/°C
合金材质 Alloy material	M:Manganin、K:Karma、S:CuMn
工作温度范围 Operating temperature range	-65°C~170°C
低电感 Low inductance	< 5nH (1MHz)
绝缘阻抗 Insulation resistance	≥220MΩ (DC 500V 1min)
耐压值 Withstand voltage	500V
符合AEC-Q200	AEC-Q200 qualified
符合RoHS要求	RoHS compliant



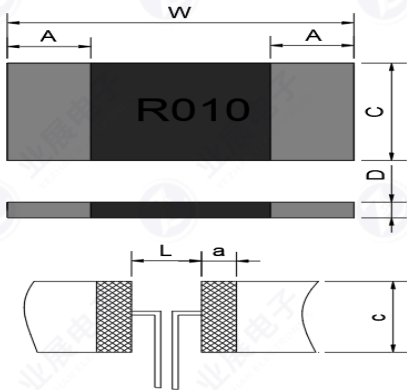
应用范围 Applications

电流采样	Current Sensing
过流保护	Over current protection
伺服电机控制电路	Servo motor control circuits
变频电源	Inverter power
电子控制系统	Electric control system
锂电池控制板	Li-battery management system

订购信息 Ordering Information

YLR	12	-3	-10	F
类型 Type	尺寸 Size	功率 Power	阻值 Resistance	精度 Tolerance
YLR	06: 1206 10: 2010 12: 2512 17: 2817 28: 2728 37: 3637 20: 4320 27: 4527	Unit: W 3:3W	Unit: mΩ 10: 10 mΩ	J: ±5% G: ±2% F: ±1% D: ±0.5%

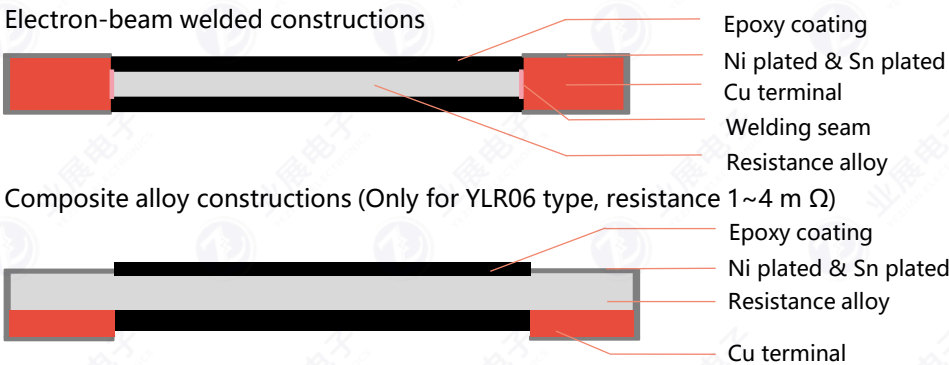
产品尺寸和推荐焊盘尺寸
Products & Recommend Pad Dimension



Unit: mm

Type	Resistance	W±0.2	C±0.2	A±0.2	D±0.1	L	a	c
YLR06	1~4	3.2	1.65	0.6	0.75	1.6	1.7	1.8
	5~30		1.6	0.5	0.61			
YLR10	0.5~0.9	5	2.5	1.3	0.8	2.1	2.1	3.5
	1~100			0.6		3.6	1.5	
YLR12	0.5~0.9	6.35	3.2	2	0.8	2.1	3.1	4
	1			0.9	1.0	4.1	2.1	
	1							
	2~200			0.9	0.8	4.1	2.1	
YLR17	1~4	7.1	4.3	1.2	0.8	3.5	2.7	5.2
	5~100							
YLR28	1	6.8	7.2	1.2	1.0	4.5	3.0	7.8
	2~100				0.8			
YLR37	1~200	9.14	9.4	2.2	0.8	4.5	3.0	9.9
YLR20	5~100	11.0	5.0	2.36	0.8	5.4	3.9	5.6
YLR27	1~200	11.6	6.9	2	1.0	8.0	3.4	8.7

产品结构图 Item Construction



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标准电气规范 Standard Electrical Specifications

系列 Type	尺寸 Size	功率 Rated Power(W)	材料 Material	阻值 Resistance /mΩ	温漂 TCR ^① (ppm/°C)	精度 Resistance Tolerance (%)	工作温度 Operating Temperature (°C)
		P70°C					
YLR	1206	1、2	CuMnSn Manganin Karma	1~5 *5~30	±50	±0.5% ±1% ±2% ±5%	-65°C~170°C
	2010	1、2		0.5~4	±75		
				5~50 *51~100	±50		
	2512	2、3		0.5~4	±75		
				5~50 *51~200	±50		
	2817	4、5		1~3	±75		
				4~50 *51~100	±50		
	2728	5		1~2	±75		
				3~50 *51~100	±50		
	3637	3、5		1~2	±75		
				3~50 *51~200	±50		
	4320	5、6		5~50 *51~100	±50		
	4527	5、7		1~3	±75		
				4~50 *51~100	±50		
		4		*101~200	±50		

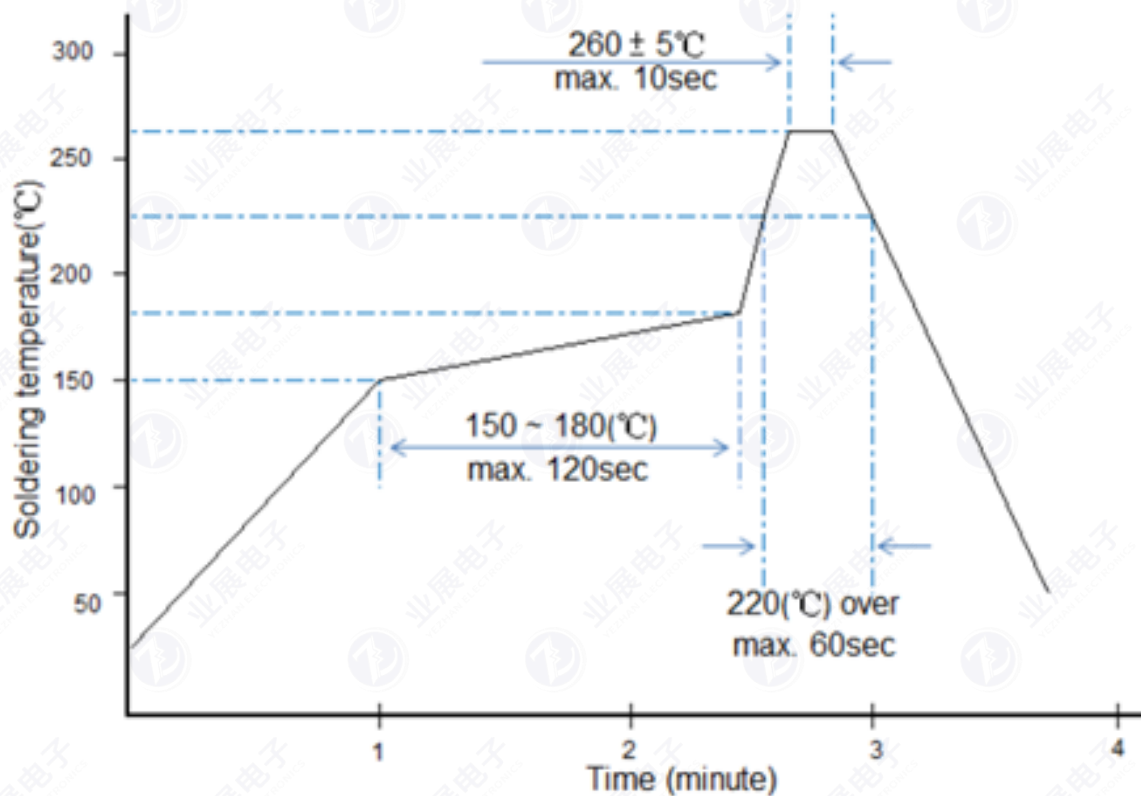
* Short Time Overload were tested with 2.5×Rated power for 10 s

① TCR (ppm/°C) : Test conditions at 20°C~120°C.

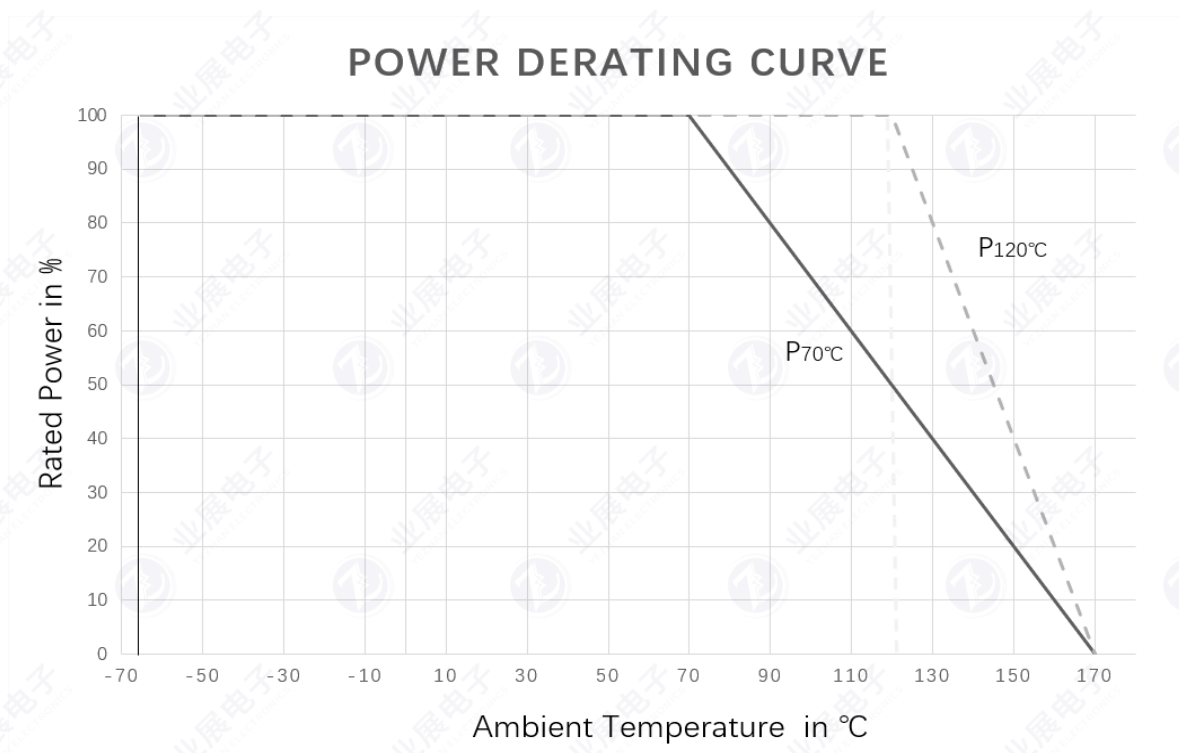
工作特性 Performance Characteristics

Items	Additional Requirements	Reference	Limits
Temperature Cycling	1000 Cycles (-55°C to +150°C)	JESD22 Method JA-104	±0.5%
ESD Test	1) Direct Contact (DC): ±6kV; 2) Air Discharge (AD): ±12kV, ±16kV, ±25kV;	AEC-Q200 REV D June 1	±0.5%
High Temperature Exposure	100hrs.@T=170°C.Unpowered.	MIL-STD-202 Method 108	±0.5%
Moisture Resistance	t=24hrs/cycle.Note: Steps 7a & 7b not required. Unpowered.	MIL-STD-202 Method 106	±0.5%
Biased Humidity	1000hrs 85°C/85%RH. Note: Specified conditions:10% of operating power.	MIL-STD-202 Method 103	±0.5%
Operational Life	Condition D Steady State TA=125°C at rated power.	MIL-STD-202 Method 108	±0.5%
Thermal Shock	1000X(-55°C to +150°C)	MIL-STD-202Method107G	0.5%
Solderability	235°C±5°C,2s±0.5s	J-STD-202	95% Coverage Minimum
Resistance to Soldering Heat	260°C±5°C, 10s±1s	MIL-STD-202 Method 210	±0.5%
Short Time Overload	5×Rated power for 5 s * 2.5×Rated power for 10 s	MIL-STD-202 Method 201	±0.5%
Shock	100g , 6ms , Orientation & Shock time: ±X, ±Y, ±Z; 3 times each orientation, total 18 times.	MIL-STD-202 Method 213	0.5%
Vibration	5 g's for 20 min, 12 cycles each of 3 orientations. Note: Use 8"X5" PCB .031" thick 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.	MIL-STD-202Method204	0.5%

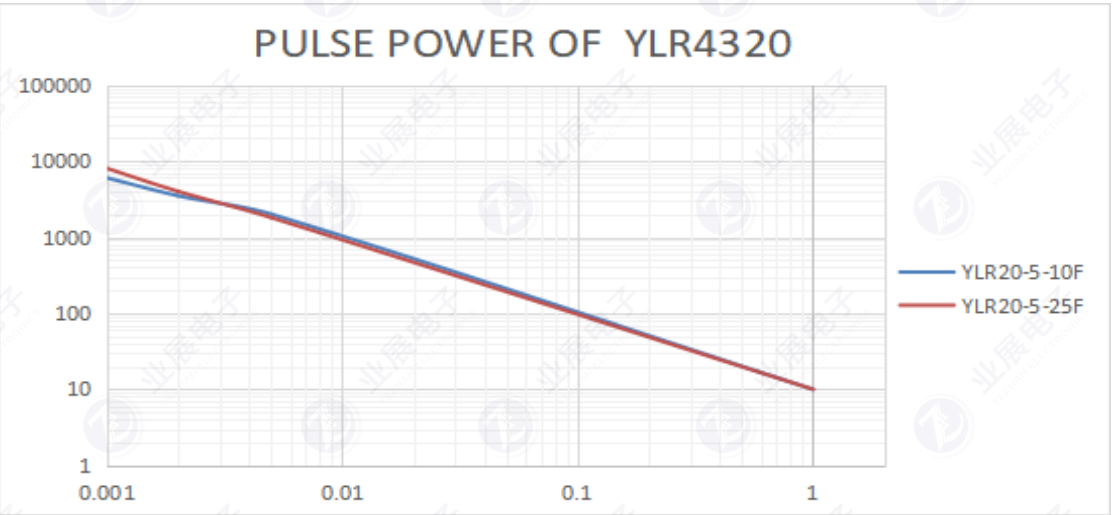
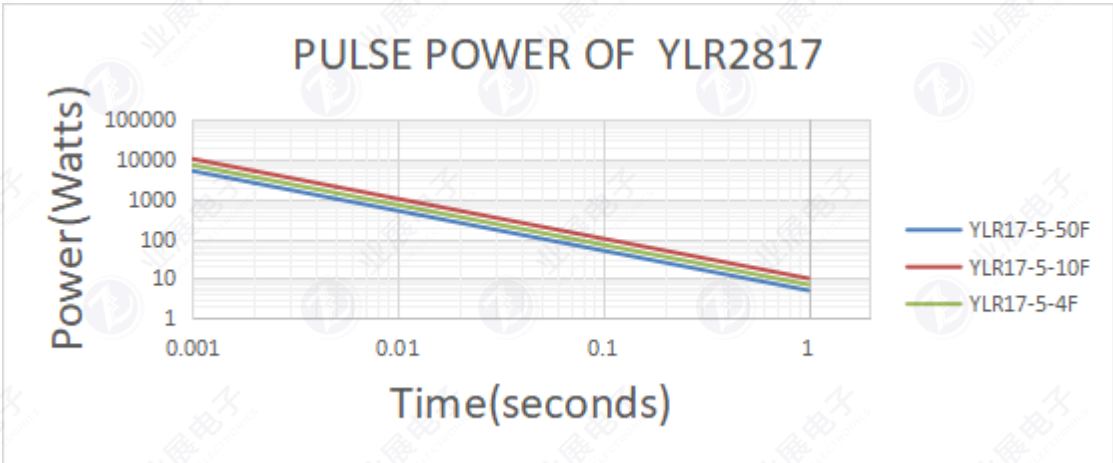
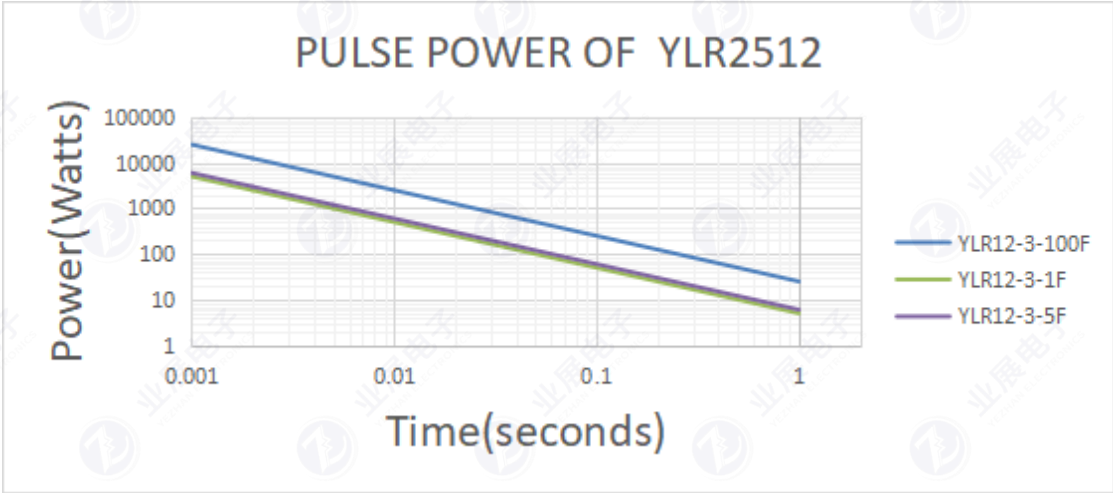
回流焊温度曲线 Solder Reflow Temperature Condition



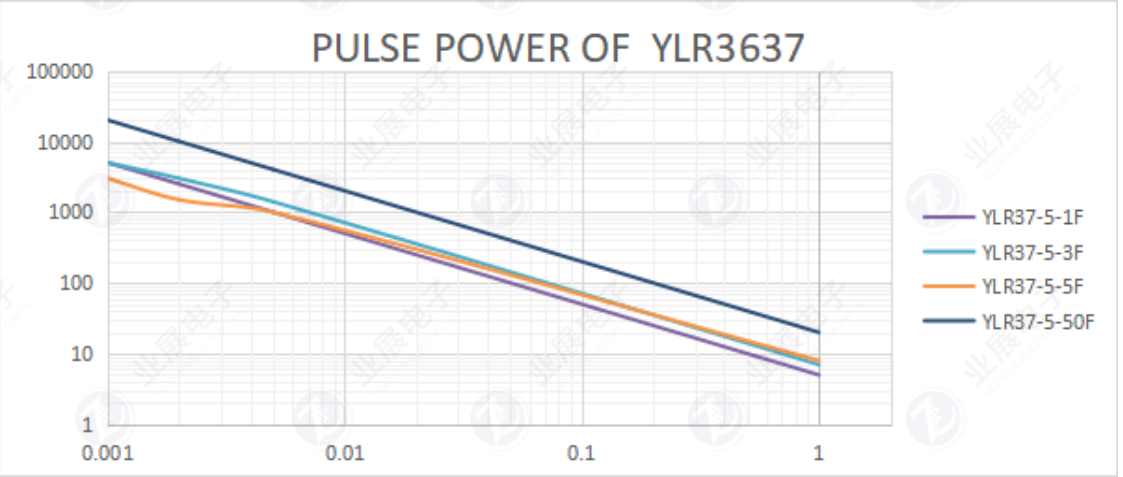
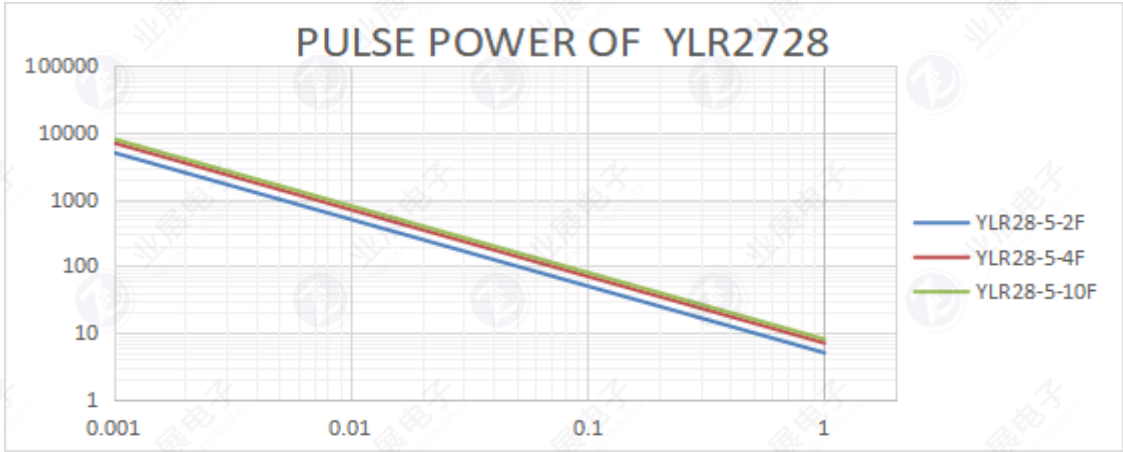
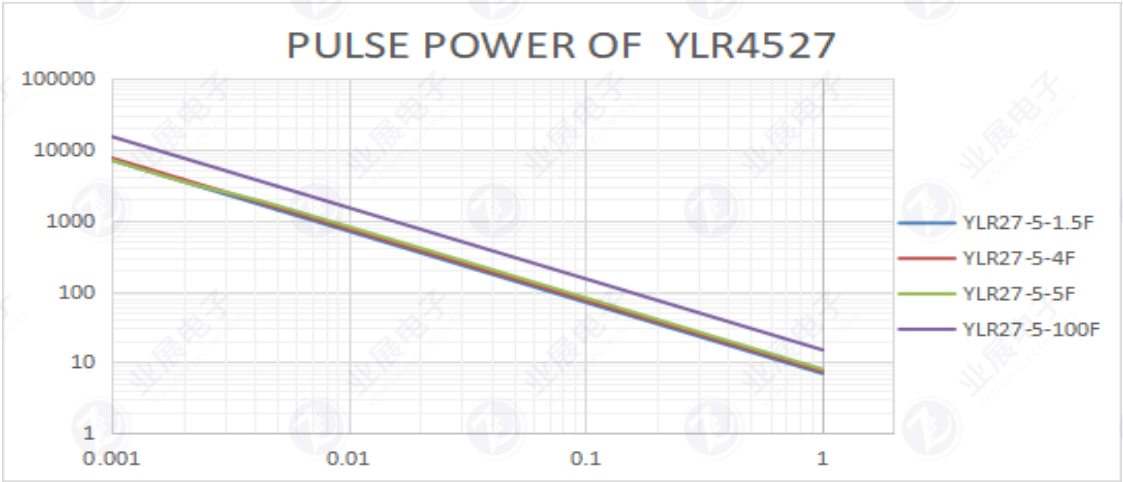
降功率曲线 Power Derating Curve



瞬间脉冲能力曲线图 Pulse Capability Curve



瞬间脉冲能力曲线图 Pulse Capability Curve



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业展电子
YEZHAN ELECTRONICS

印字标识 Marking

激光字码; Laser Marking

All the products marking are 4 digits. 'R' designates the decimal location in ohms

E.g.,

3mΩ=R003; 100mΩ=R100; 1.5mΩ=1m50

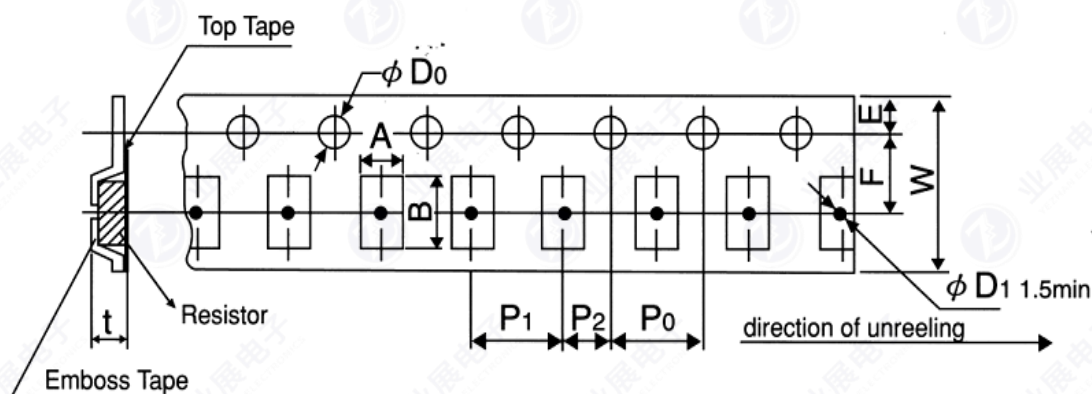
标准品为激光字码, 如需白色丝印字码, 请咨询业展销售团队。

Laser marking is default. If need white printed marking, pls contact Yezhan sales team.

包装 Packing

存储条件 Storage Conditions: Temperature:5°C~35°C, Humidity:40%~75%

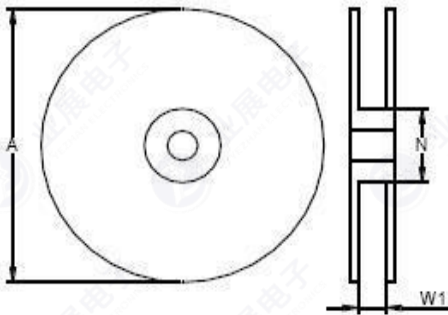
编带盘装: Embossed Plastic Tape



Unit/mm

Type	A $\pm$ 2	B $\pm$ 2	W $\pm$ 0.3	F $\pm$ 0.1	E $\pm$ 0.1	P ₁ $\pm$ 0.1	P ₂ $\pm$ 0.1	P ₀ $\pm$ 0.1	D ₀ $\pm$ 0.1	t $\pm$ 0.2	Qty/reel
YLR06	2.0	3.6	8	3.5	1.7	4	2.0	4.0	ϕ 1.5	0.84	3000
YLR10	2.75	5.5	12	5.5	1.75	4	2	4	ϕ 1.5	0.82	3000
YLR12	3.6	6.9	12	5.5	1.75	4	2.0	4.0	ϕ 1.5	1.2	3000
YLR17	4.8	7.2	16	7.5	1.75	6	2.0	4.0	ϕ 1.5	1.2	1500
YLR28	7.2	7.7	16	5.5	1.75	8	2.0	4.0	ϕ 1.5	1.2	1000
YLR37	9.8	9.6	24	11	1.75	12	2.0	4.0	ϕ 1.5	1.2	3000
YLR20	5.3	11.3	24	11.5	1.75	12	2.0	4.0	ϕ 1.5	1.2	3000
YLR27	7.4	11.8	24	11.5	1.75	12	2.0	4.0	ϕ 1.5	2.3	3000

料盘规格 Reel & Tape Specifications



Unit/mm

Type	A±2	N±1	W1±1
YLR06	178	60	12
YLR10			
YLR12			
YLR17			
YLR28			
YLR37	330	100	24
YLR20			
YLR27			

版本信息 Version History

Version	Date	Description of amendment	Remarks
A1	12-Dec-2020	First issue for this specification	
A1.1	26-Sep-2021	Add 4527 series	
A1.2	21-Jul-2022	Add 2010 series	