

### 》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:CuMnSn
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

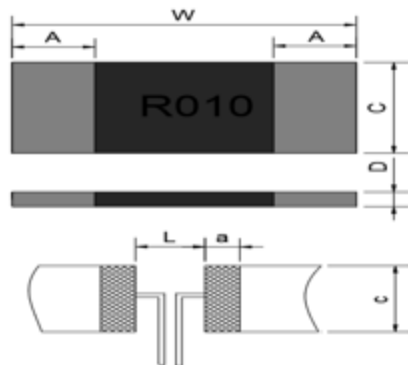
电流采样	Current Sensing
过流保护	Over current protection
伺服电机控制电路	Servo motor control circuits
变频电源	Inverter power
电子控制系统	Electric control system
锂电池控制板	Li-battery management system

### 》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 25L: 1225 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

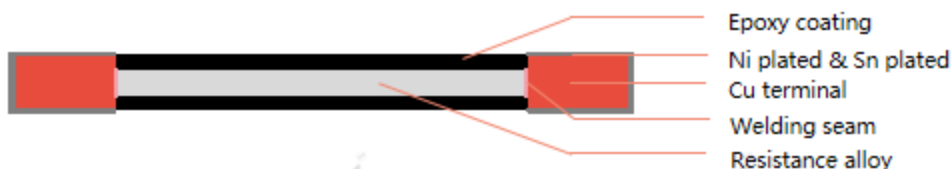


Unit: mm

Type	Resistance	W±0.2	C±0.2	A±0.2	D±0.1	L	a	c
YLR06	5~20	3.2	1.6	0.6	0.8	1.6	1.7	1.8
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	6.35	3.2	2.3	0.8	1.5	3.4	4
	0.6~1			2		2.1	3.1	
	1			0.9		4.1	2.1	
	2~200			0.9		4.1	2.1	
YLR25L	1~3	3.2	6.4	0.6	0.8	2.3	1	7
YLR17	1~4	7.1	4.3	1.2	0.8	3.5	2.7	5.2
	5~200							
YLR28	1	6.8	7.2	1.2	1.0	4.5	3.0	7.8
	2~150				0.8			
YLR37	1~200	9.14	9.4	2.2	0.8	4.5	3.0	9.9
YLR20	5~150	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

Electron-beam welded constructions



## 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 <sup>①</sup> (ppm/°C)	精度 Resistance Tolerance (%)	工作温度 Operating Temperature (°C)
		P70°C					
YLR	1206	2	CuMnSn Manganin Karma	*5~10	±50	±0.5% ±1% ±2% ±5%	-65°C~170°C
		1		*11~20			
	2010	2		0.5~4	±75		
				5~50 *51~100	±50		
	2512	3		0.5~4	±75		
				5~50 *51~100	±50		
		2		*101~200			
	1225	3		1~3	±50		
	2817	5		1~3	±75		
		3		4~50 *51~100 *101~200	±50		
	2728	5		1~2	±75		
		4		3~50 *51~100 *101~150	±50		
	3637	5		1~2	±75		
		3		3~50 *51~100 *101~200	±50		
	4320	6		5~10	±50		
		5		11~50 *51~100 *101~150			
	4527	7		1~3	±75		
		5		4~10	±50		
				11~50 *51~100			
	4	*101~200		±50			

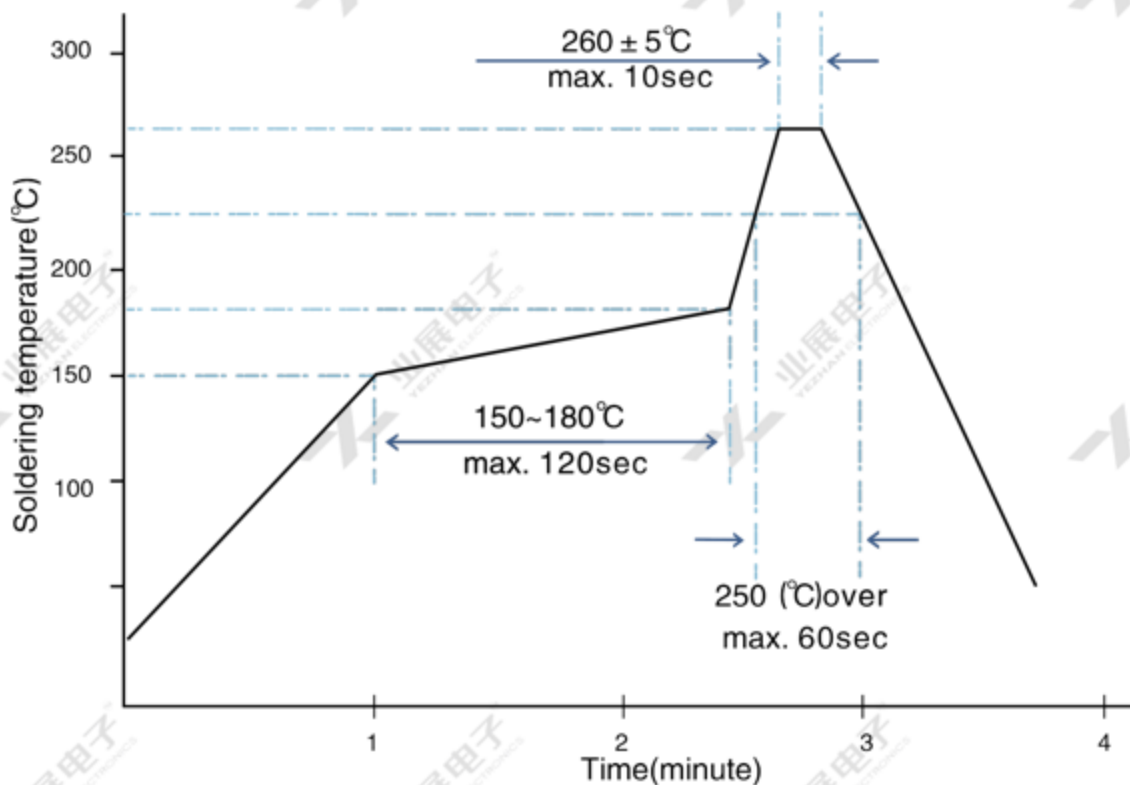
\* Short Time Overload were tested with 2.5×Rated power for 10 s

① TCR (ppm/°C) : Test was conducted from 20°C to 120°C while 20°C worked as the reference.

» 耐久性测试 Endurance Test

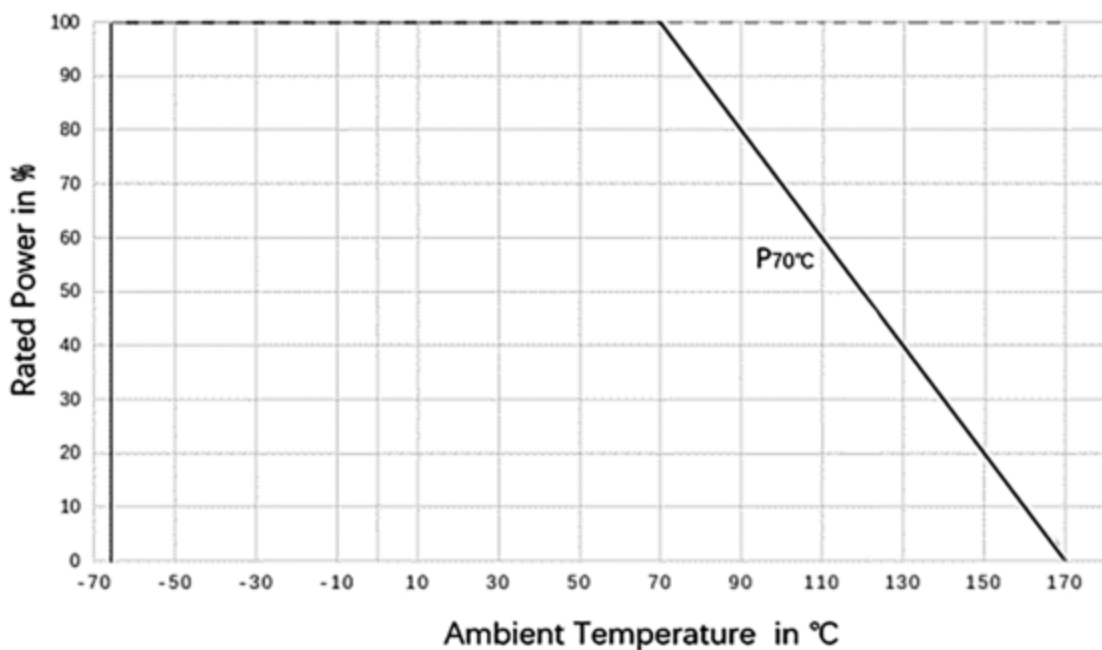
Items	Additional Requirements	Reference	Limits
Temperature Cycling	1000 Cycles (-55°C to +150°C)	JESD22 Method JA-104	±0.5%
ESD Test	1) Direct Contact (DC): ±6kV; 2) Air Discharge (AD): ±12kV, ±16kV, ±25kV;	AEC-Q200 REV D June 1	±0.5%
High Temperature Exposure	1000hrs.@T=170°C.Unpowered.	MIL-STD-202 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

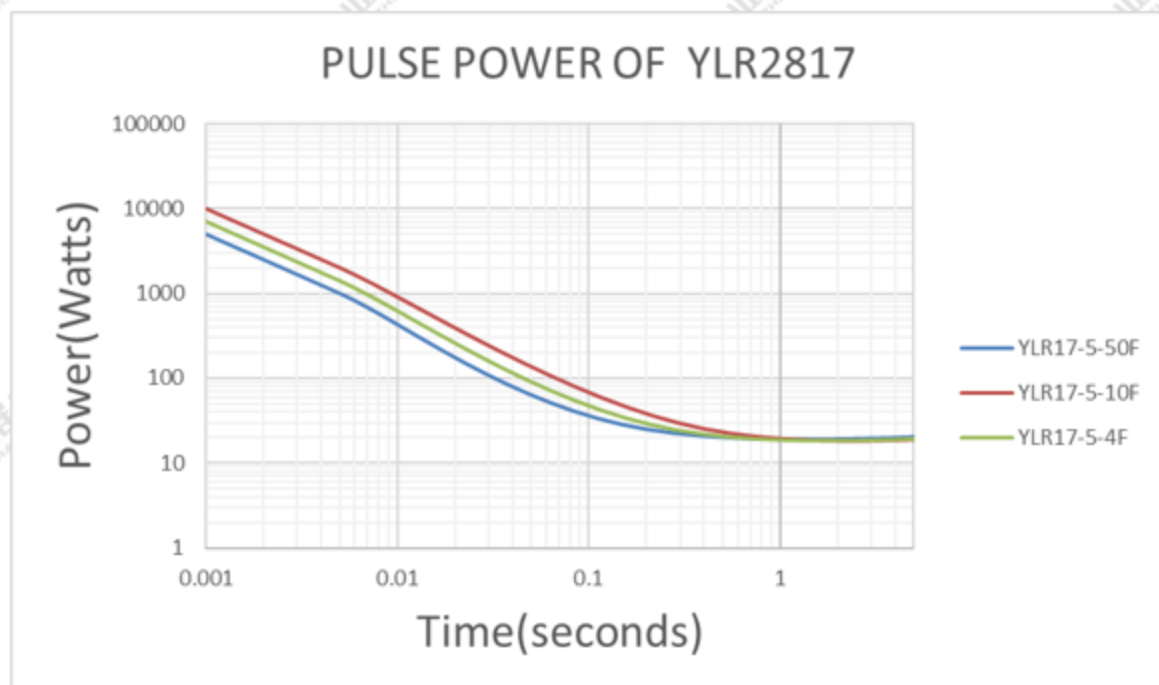
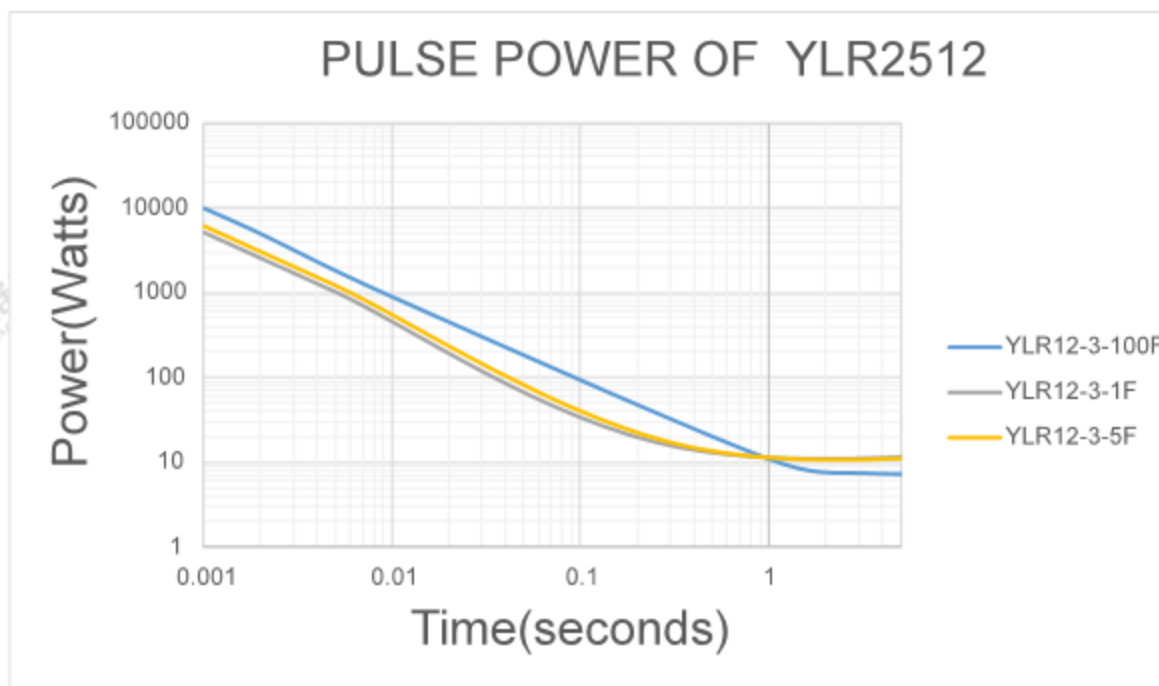


### 降功率曲线 Power Derating Curve

#### POWER DERATING CURVE

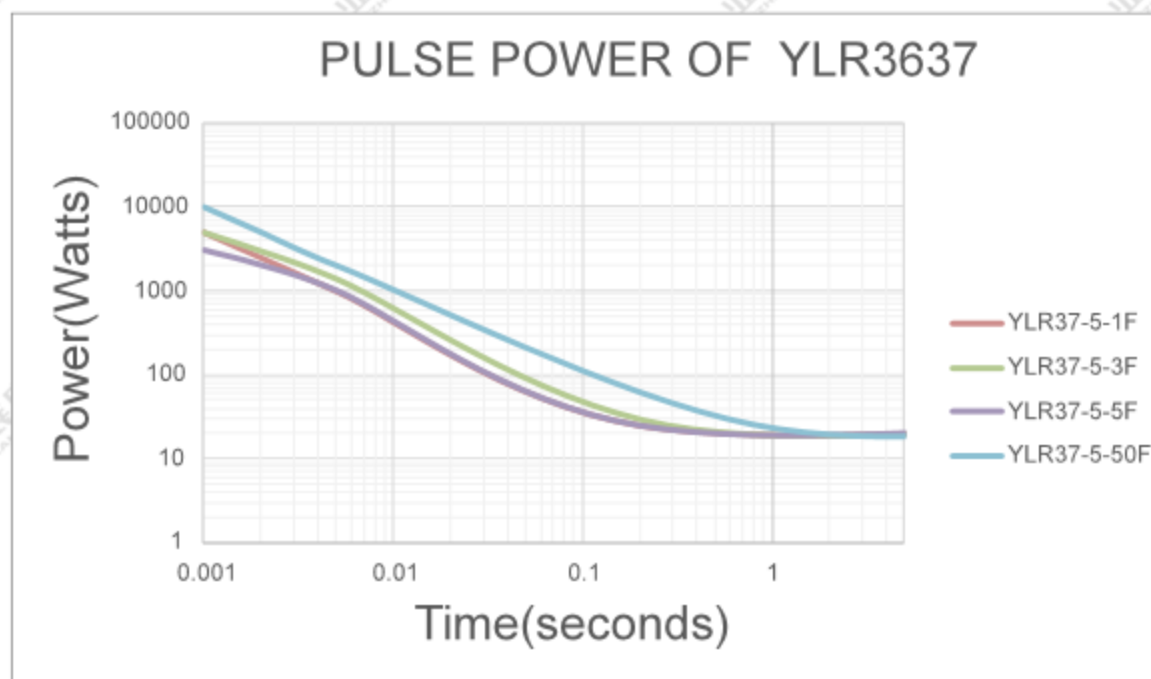
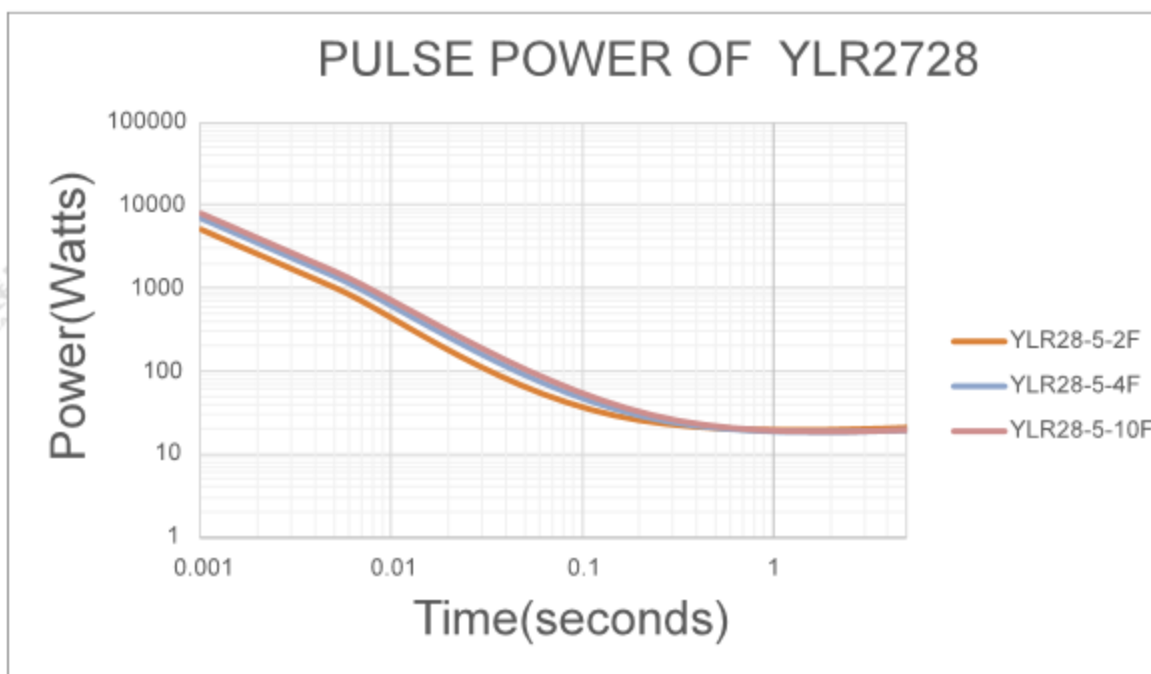


### 瞬间脉冲能力曲线图 Pulse Capability Curve

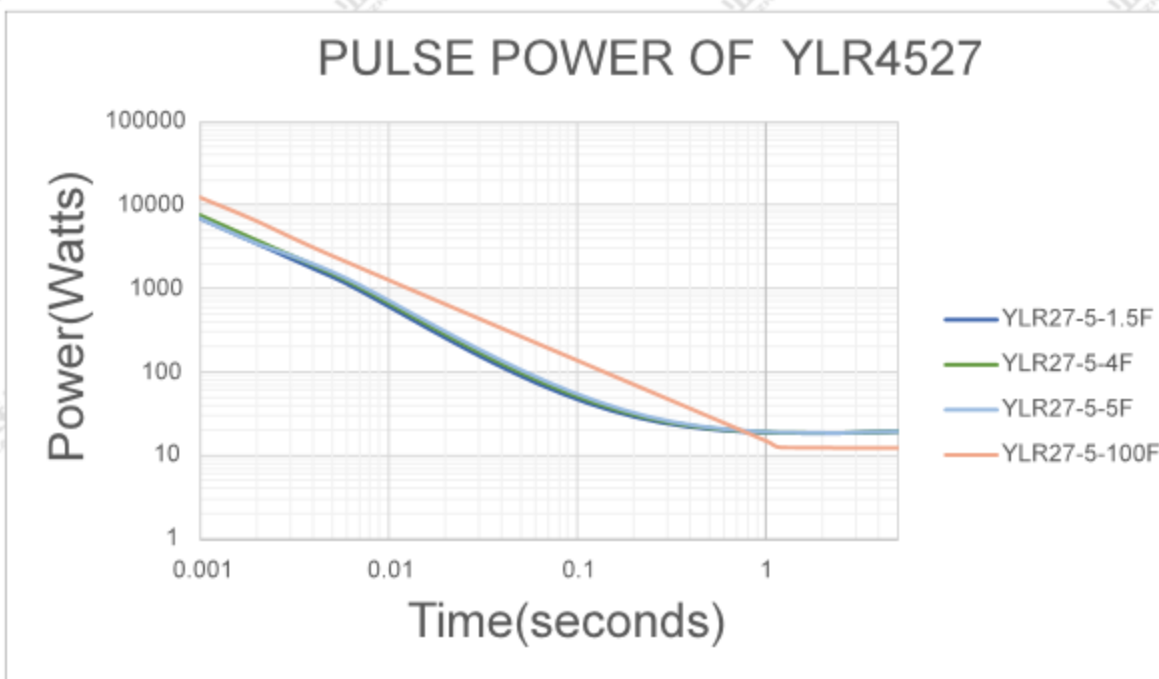
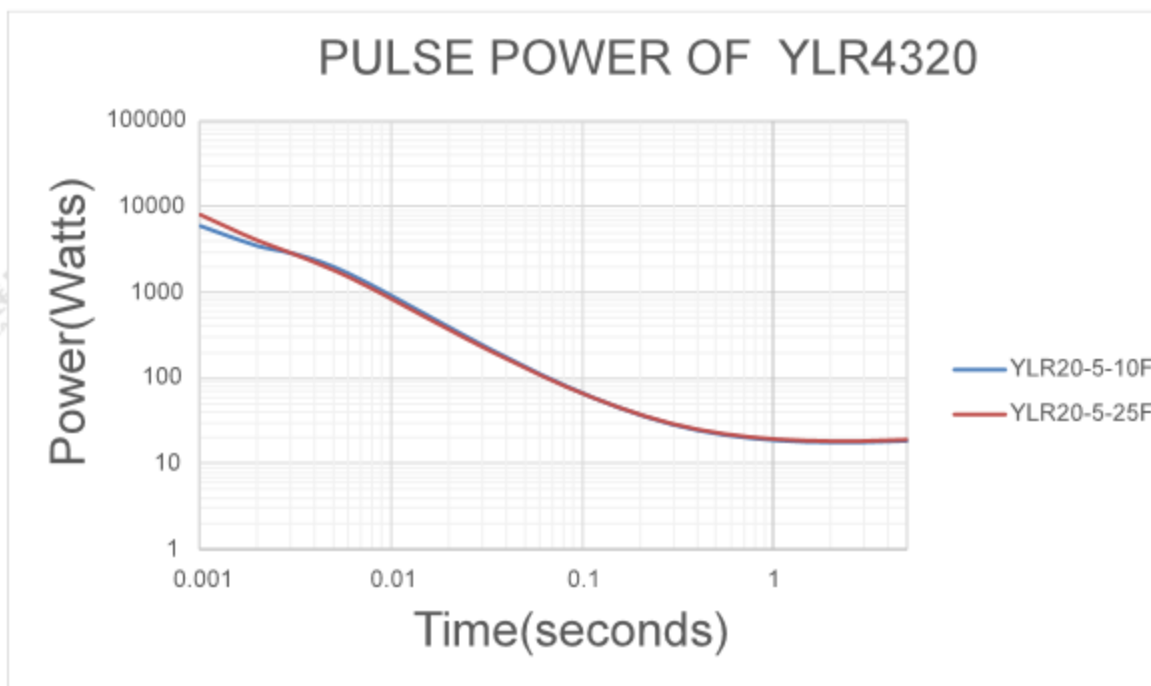




### 瞬间脉冲能力曲线图 Pulse Capability Curve



### 瞬间脉冲能力曲线图 Pulse Capability Curve





### 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

1206 series: 3mΩ = 003; 100mΩ = 100; 1.5mΩ = 1m5

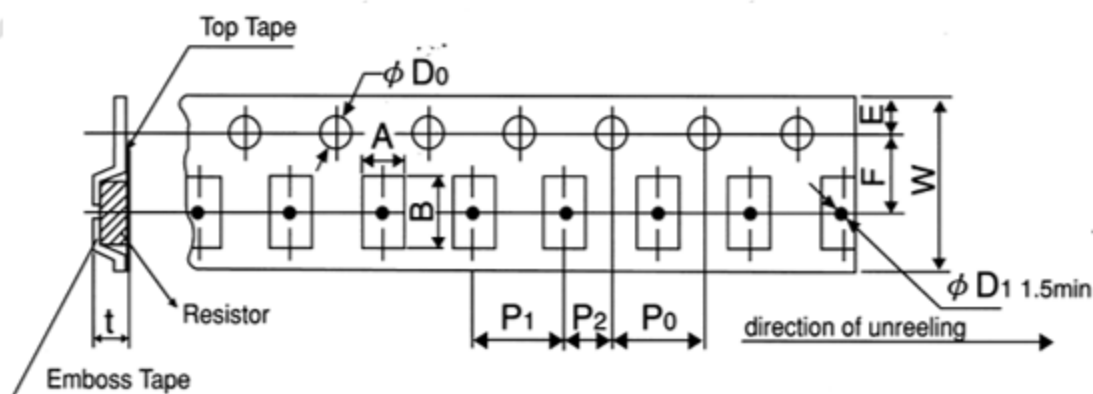
标准品为激光字码, 如需白色丝印字码, 请咨询业展销售团队。

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%

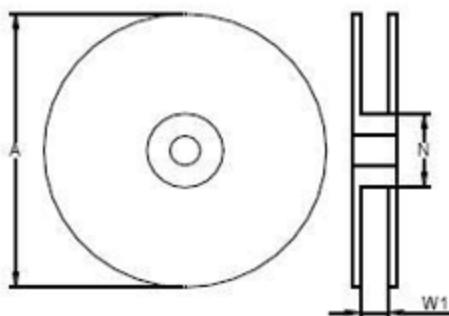
编带盘装: Embossed Plastic Tape



Unit/mm

Type	A±2	B±2	W±0.3	F±0.1	E±0.1	P <sub>1</sub> ±0.1	P <sub>2</sub> ±0.1	P <sub>0</sub> ±0.1	D <sub>0</sub> ±0.1	t±0.2	Qty/reel
YLR06	2.0	3.6	8	3.5	1.7	4	2.0	4.0	Φ1.5	0.84	3000
YLR10	2.75	5.5	12	5.5	1.75	4	2	4	Φ1.5	0.82	3000
YLR12	3.6	6.9	12	5.5	1.75	4	2.0	4.0	Φ1.5	1.2	3000
YLR25L	3.6	6.9	12	5.5	1.75	4	2.0	4.0	Φ1.5	1.2	3000
YLR17	4.8	7.2	16	7.5	1.75	6	2.0	4.0	Φ1.5	1.2	1500
YLR28	7.2	7.7	16	5.5	1.75	8	2.0	4.0	Φ1.5	1.2	1000
YLR37	9.8	9.6	24	11	1.75	12	2.0	4.0	Φ1.5	1.2	3000
YLR20	5.3	11.3	24	11.5	1.75	12	2.0	4.0	Φ1.5	1.2	3000
YLR27	7.4	11.8	24	11.5	1.75	12	2.0	4.0	Φ1.5	2.3	3000

» 料盘规格 Reel & Tape Specifications



Unit/mm

Type	A $\pm$ 2	N $\pm$ 1	W1 $\pm$ 1
YLR06	178	60	12
YLR10			
YLR12			
YLR25L			
YLR17			
YLR28			
YLR37	330	100	24
YLR20			
YLR27			

### » 版本信息 Version History

版本 Version	日期 Date	修订描述 Description of amendment	拟定 Draft	审核 Checked
A1.0	12-Dec-2020	首版发行	罗国涛	胡紫阳
A1.1	26-Sep-2021	修改耐久性测试限额	罗国涛	胡紫阳
A1.2	21-Jul-2022	增加4527系列	罗国涛	胡紫阳
A1.3	11-Jan-2023	增加2010系列	罗国涛	胡紫阳
A1.4	23-Feb-2023	更新脉冲能力曲线	罗国涛	胡紫阳
A1.5	11-May-2023	修改产品的电阻范围和功率描述	罗国涛	胡紫阳

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