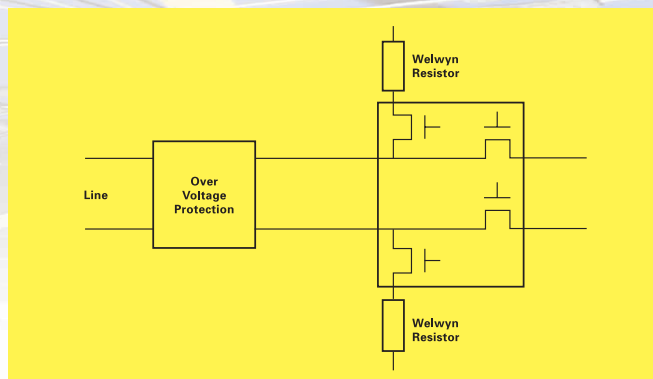


4. Telecommunications

Telephone lines can be subjected to a large range of voltage disturbances, many of which can damage switching equipment. This has led to the need for circuit protection against both high voltage transients, usually of short duration due to lightning strikes and overloads of longer duration caused by accidental direct connection to mains power lines.

These two faults are separated into primary and secondary protection. Primary protection handles the high voltage transients, and is usually located within the exchange. Secondary protection is usually built into the equipment to be protected, and deals with both current and voltage limiting. Voltage limiting prevents damage to the equipment and shock hazards, and current limiting prevents damage to wiring and voltage limiters.

A typical application circuit is shown right where the resistors are designed for ring signal sending through a solid state relay. The resistors are protected from lightning surge by Over-voltage Protection in the system and the resistors are required to withstand pulse of 15 Watts for 1 second and 75 Watts for 0.1 second, repeated 60 times.



For this application, Welwyn has developed the Pulse Withstanding Chip (PWC series) described below. For full details on this product, see our Application Note "Pulse Withstanding Chip Resistors".

Pulse Withstanding Chip Resistors

PWC Series

Electrical Data

Size	0805	1206	2010	2512
Power @70°C	0.125W	0.33W	0.75W	1.5W
Resistance range	1R0 to 10M			
Tolerance	0.5, 1, 2, 5%			
LEV	150V	200V	400V	500V
TCR	<10R:200ppm/°C ≥10R:100ppm/°C			
Operating temperature	-55 to +155°C			
Values	E96 preferred other values to special order			
Pulse capability	See following pages			

- Excellent pulse handling performance
- Thick film technology provides wide resistance and temperature ranges (1ohm to 10 meg ohm; -55 to +155°C)
- Standard and custom chip sizes (0805 to 2512)

Note: Circuit diagrams shown for example only.

For more detailed product information and data sheets or to discuss your specific requirements please contact Welwyn Components Ltd.

Welwyn Components Ltd. have over 60 years experience in designing and manufacturing resistive components.

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