

Influence of environment temperature on power and pinch-off current rating



Current - voltage characteristics with and without resistor (example)



CRD for higher currents

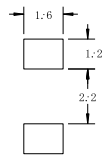
CRDs can be used in row to amplify permissible current.



CRD for higher voltages

Using CRDs in row with Zener diodes allows the use of stable currents at higher voltage values.

Recommended mounting pad dimensions (S series only)



Dynamic characteristics (voltage - current)



How to compensate current reduction due to heat up of the CRD

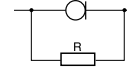
For currents of 1 mA or more resistors can be used together with CRDs to compensate for current decreases and fluctuations. The following values are typical for compensation resistors.

Rated power: 500 mW

Product number	S-102	S-152	S-202	S-272	S-352	S-452	S-562	S-822	S-103	S-123	S-153	S-183	S-223
Recommended resistance value	1.1 MΩ	430 kΩ	300 kΩ	200 kΩ	130 kΩ	91 kΩ	62 kΩ	27 kΩ	18 kΩ	15 kΩ	12 kΩ	9 kΩ	5.6 kΩ

Rated power: 300 mW

Product number	E-102	E-152	E-202	E-272	E-352	E-452	E-562	E-822	E-103	E-123	E-153	E-183
Recommended resistance value	1 MΩ	390 kΩ	240 kΩ	120 kΩ	82 kΩ	56 kΩ	39 kΩ	20 kΩ	15 kΩ	11 kΩ	9.1 kΩ	7.5 kΩ




Reliability data




Item	Test conditions	Criteria
Resistance to soldering heat	10 s at 260 °C (wave soldering)	$\Delta I_p \pm 5\%$
Solderability	3 s at 245 °C Flux material: Rosin 25%, propanol 75%	More than 90% soldered
Dry heat	1000 hours at 150 °C	$\Delta I_p \pm 5\%$
Damp heat (CRD S)	1000 hours at 85 °C and 85% humidity	
Damp heat (CRD E)	1000 hours at 70 °C and 90% humidity	
Temperature cycle / thermal shock (CRD S)	10 cycles as below: 1. - 55 °C for 15 minutes 2. Room temperature for 15 minutes 3. 150 °C for 15 minutes 4. Room temperature for 15 minutes	
Temperature cycle / thermal shock (CRD E)	5 cycles as below: 1. - 25 °C for 30 minutes 2. Room temperature for 15 minutes 3. 150 °C for 30 minutes 4. Room temperature for 15 minutes	

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