



Bourns Releases High Surge Multilayer Varistor in Case Size 2220

Model ZV50S2220452NIR1

Riverside, California – February 28, 2025 – Bourns is pleased to announce the release of the [Model ZV50S2220452NIR1](#) high surge multilayer varistor. This varistor, with approximately five times higher surge current capability than a standard multilayer varistor of the same case size (2220) is designed specifically for use in applications with certain harsh environmental conditions. Offering excellent transient energy absorption due to improved energy volume distribution and power dissipation, this varistor is available with 50 V_{rms} rated voltage in a 2220 SMD package with a 4500 A surge current capability.

Absolute Maximum Ratings

Parameter	Value	Units
Continuous:		
Steady State Applied Voltage		
DC Voltage (V _{dc})	63	V
AC Voltage (V _{rms})	50	V
Transient:		
Peak Single Pulse Surge Current, 8/20 μs Waveform (I _{max})	4500	A
Operating Ambient Temperature	-55 to +125	°C
Storage Temperature Range	-55 to +150	°C
Threshold Voltage Temperature Coefficient	< +0.05	%/°C
Response Time	< 2	ns
Climatic Category	55 / 125 / 56	

Device Ratings

Model	V _{rms}	V _{dc}	V _n @ 1 mA	ΔV _n	V _c	I _c 8/20 μs	P max.	I _{max} 8/20 μs	C _{typ} @ 1 kHz
	V	V	V	%	V	A	W	A	pF
ZV 50 S 2220 452 NIR1	50	63	77.5	±8.4	115	10	0.020	4500	8800

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KV2501

If you have questions or need additional information, please feel free to contact [Bourns Customer Service/ Inside Sales](#).

Features

- High surge capability
- Short response time
- Low clamping voltage - V_C
- Low sensitivity to mildly activated fluxes
- +125 °C maximum continuous operating temperature
- RoHS compliant*

Applications

- Radio remote units (RRU) for 5G applications
- Power over Ethernet (PoE)
- Base stations
- Wireless infrastructure
- Measurement and control applications

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.