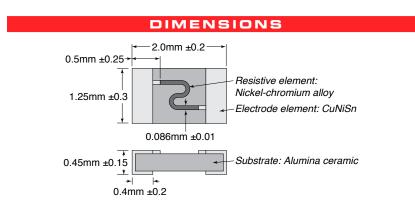


Electro-Pyrotechnic Ignitor Chip Resistor

An ignitor resistor generates heat to ignite explosive material. In a digital electronic detonator, the ignitor resistor converts the electrical energy into heat energy to generate ignition. Its working principle is that the remote control charges the internal capacitor of the electronic control module, then the order of ignition is issued, and the capacitor is discharged through the ignitor.

When compared to a traditional bridge wire, the ignitor resistor can accurately control the ignition time of the detonator. The ignitor resistor is the most critical factor that determines whether the entire digital electronic detonator can be successfully ignited.

SPECIFICATIONS								
Part Number	Size	Value	Tolerance	Oper. temp range	TCR			
DZ0805L2R0E DZ0805L4R0E		2Ω 4Ω			±150ppm/°C			
DZ0805L6R0E DZ0805L8R0E	0805	6Ω 80	7%	-40°C ~+85°C	(-40°C~+85°C, 25°C ref)			







FEATURES

- Using alumina ceramic substrate, the mechanical strength is far better than FR5 substrate. When the resistor is subjected to mechanical shock, external stress and reflow soldering, it will not damage the active area.
- Add a heat insulating layer on the substrate. In "All Fire", the heat generated by the current is enough to ignite the pyrotechnic material, will not be dissipated by the ceramic substrate in such a short time (down to 0.1ms); in "No Fire", the heat will dissipate through the ceramic substrate out in long duration such as 10s. It not only guarantees rapid ignition in "All Fire", but also guarantees safety in "No Fire".

PERFORMANCE					
	Value	Test Method			
"All Fire" voltage	14V (44µF capacitor discharge)	Capacitance discharge, capacitor is charged up to 14V then discharge initiator resistor, capture the highest tem- perature of active area.			
"No Fire" voltage	8.5V (typical)	Capacitance discharge, capacitor is charged up to 8.5V then discharge initiator resistor, capture the highest tem- perature of active area			
100% fusing	constant current 330mA, fusing time <12ms	Load with 330mA constant current, capture the surface temperature of the initiator resistor, and draw tempera- ture curve, regard the point-in-time as fusing time when surface temperature reach the highest.			
0% fusing	constant current 150mA, power-on time ≥10s	Load with 150mA constant current, capture the surface temperature of the initiator resistor, 10s on while the heat is transferred to substrate, regard the highest constant current as 0% fusing current			
Surface temperature	Peak surface temperature: T > 500°C Fusing time: t > 200 μ s Ignition state: Ignition is concentrated in the middle of active area; T > 450°C, t ≥ 500 μ s Lot standard (typical): Same lot ≤35°C; Different lots ≤45°C	Capacitance discharge, capacitor is charged up to 16V then discharge initiator resistor, capture the highest tem- perature of active area.			

PERFORMANCE

DZ Series

Electro-Pyrotechnic Ignitor Chip Resistor

PERFORMANCE					
	Test Limits	Test Method			
Resistance/ Tolerance	No more than the nominal tolerance. CPK≥1.33	Refer to IEC 60115-1 (JIS C 5201-1), sub-clause 4.5			
Resistance	$\Delta R \leq \pm (2.0\% + 0.01\Omega)$; No mechanical damage.	Reflow soldering method:			
to soldering heat	Electrical performance shall be satisfied.	Peak temperature: ≤265°C, time ≤10s			
		Temperature: >220°C, time ≤60s			
		Limited reflow times: 2 times			
		The temperature shall be the board surface temperature; For other procedures, please refer to IEC 60115-(JIS C 5201-1), sub-clause 4.18			
•	A new uniform coating of solder shall cover mini-	Temperature of solder:			
	mum of 95% of the surface being immersed.	235±5°C (solder alloy: Sn-37Pb)			
		245±5°C (solder alloy: Sn-3Ag-0.5Cu)			
		Duration of immersion: 2±0.5s			
		For other procedures, please refer to IEC 60115-1, sub-clause 4.17			
Corrosion resistance	No failures such as changes in ignition perfor- mance will occur within 2 years, and the resistance value change is less than $\pm 1\%$.	Dipped in commonly used acid and alkali chemicals, resistor can be stored for 2 years.			

The test method shall be as specified in IEC 60115-1 or JIS C 5201-1; The test environment is a standard atmospheric conditions.

Unless otherwise specified, the standard atmospheric pressure conditions for making measurements is as follows: Temperature: 5-35°C; Relative humidity: 45-85%RH; Air pressure: 86-106kPa

If there is any doubt about the measurement results, the test should be carried out in accordance with the following conditions: Temperature: 20±2°C; Relative humidity: 60-70%RH; Air pressure: 86-106kPa

ORDERING INFORMATION

DZ	08	05L6R0) E
Series	l Size	Tolerance Ohm value	RoHS Compliant

Package

Tape and reel, 5000pcs/reel Vacuum package with humidity indicator card inside.



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