

## FEATURES

- ZINC OXIDE MULTILAYER CONSTRUCTION
- HIGH ENERGY SURGE VOLTAGE PROTECTION
- EIA SIZES 0603, 0805, 1206 AND 1210
- HIGH CURRENT RATING (UP TO 500A)
- FAST RESPONSE (LESS THAN 1nS)
- LOW CLAMPING VOLTAGES
- Pb-FREE COMPATIBLE WITH FLOW AND REFLOW SOLDERING

## RoHS Compliant

includes all homogeneous materials

\*See Part Number System for Details

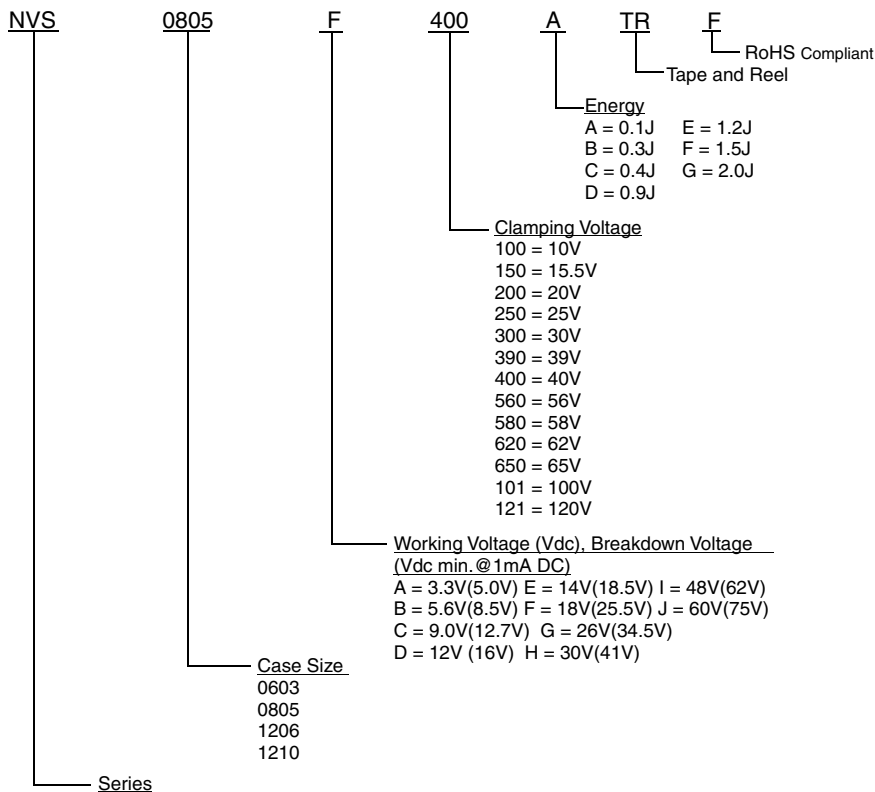


Multilayer zinc oxide chip varistors are ideal for the suppression of voltage transients due to ESD, inductive discharge and electromagnetic energy. The NVS series of chip varistors were designed to provide transient protection to new, low voltage semiconductors and to aid in equipment compliance to CIS/IEC 801 specifications.

## CHARACTERISTICS

Specifications	Size			
	0603	0805	1206	1210
Working Voltage Range (@50µA Maximum Leakage Current)	3.3 ~ 30V	3.3 ~ 30V	3.3 ~ 48V	18 ~ 60V
Clamping Voltage Range (Based on 20 - 10 Amp 8/20µS Pulse)	10 ~ 65V	10 ~ 65V	10 ~ 100V	39 ~ 120V
Peak Current Rating (8/20µS Pulse Waveform)	30A	30 ~ 120A	30 ~ 150A	220 ~ 500A
Maximum Transient Energy Dissipated (10/1000µS Pulse Waveform)	0.1J	0.1 ~ 0.3J	0.1 ~ 0.4J	0.9 ~ 1.5J

## PART NUMBERING SYSTEM

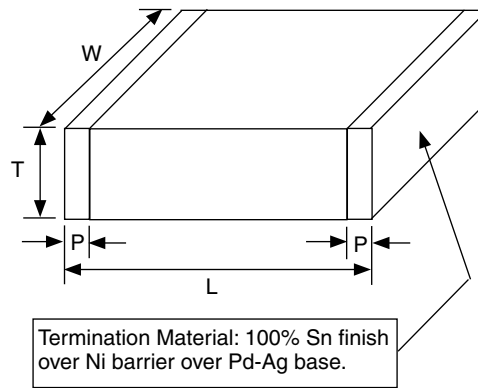


## PART NUMBERING SPECIFICATIONS

Case Size	Part Number	Working* Voltage (Max.)	Clamping Voltage (Max.)	Peak Current (Max.)	Transient Energy (Max.)	Typical	
						C (nF)	L (nH)
0603	NVS0603A100A	3.3V	12V	30A	0.1J	1.450	<1.0
	NVS0603B150A	5.6V	18V	30A	0.1J	0.750	<1.0
	NVS0603C200A	9.0V	22V	30A	0.1J	0.550	<1.0
	NVS0603E300A	14V	32V	30A	0.1J	0.350	<1.0
	NVS0603F400A	18V	42V	30A	0.1J	0.150	<1.0
	NVS0603G580A	26V	60V	30A	0.1J	0.155	<1.0
	NVS0603H650A	30V	67V	30A	0.1J	0.125	<1.0
0805	NVS0805A100A	3.3V	12V	40A	0.1J	1.400	<1.5
	NVS0805A100B	3.3V	12V	120A	0.3J	5.000	<1.5
	NVS0805B150A	5.6V	18V	40A	0.1J	1.100	<1.5
	NVS0805B150B	5.6V	18V	120A	0.3J	3.000	<1.5
	NVS0805C200A	9.0V	22V	40A	0.1	0.750	<1.5
	NVS0805D250A	12V	27V	40A	0.1J	0.525	<1.5
	NVS0805E300A	14V	32V	40A	0.1J	0.325	<1.5
	NVS0805E300B	14V	32V	120A	0.3J	0.900	<1.5
	NVS0805F400A	18V	42V	30A	0.1J	0.225	<1.5
	NVS0805F400B	18V	42V	100A	0.3J	0.550	<1.5
	NVS0805G580A	26V	60V	30A	0.1J	0.120	<1.5
	NVS0805G580B	26V	60V	100A	0.3J	0.250	<1.5
	NVS0805H650A	30V	67V	30A	0.1J	0.090	<1.5
1206	NVS1206A100A	3.3V	12V	40A	0.1J	1.250	<1.7
	NVS1206A100C	3.3V	12V	150A	0.4J	4.700	<1.7
	NVS1206B150A	5.6V	18V	40A	0.1J	1.200	<1.7
	NVS1206B150C	5.6V	18V	150A	0.4J	3.000	<1.7
	NVS1206E300A	14V	32V	40A	0.1J	0.600	<1.7
	NVS1206E300C	14V	32V	150A	0.4J	1.050	<1.7
	NVS1206F400A	18V	42V	30A	0.1J	0.350	<1.7
	NVS1206F400C	18V	42V	150A	0.4J	0.900	<1.7
	NVS1206G580C	26V	60V	120A	0.4J	0.500	<1.7
	NVS1206H650C	30V	67V	120A	0.4J	0.400	<1.7
	NVS1206I101C	48V	100V	100A	0.4J	0.225	<1.7

## PART NUMBERING SPECIFICATIONS

Case Size	Part Number	Working* Voltage (Max.)	Clamping Voltage (Max.)	Peak Current (Max.)	Transient Energy (Max.)	Typical	
						C (nF)	L (nH)
1210	NVS1210F390F	18V	42V	500A	1.5J	3.100	2.0
	NVS1210G560E	26V	60V	300A	1.2J	2.150	2.0
	NVS1210H620D	30V	67V	220A	0.9J	1.750	2.0
	NVS1210H620E	30V	67V	280A	1.2J	1.850	2.0
	NVS1210I101D	48V	100V	220A	0.9J	0.450	2.0
	NVS1210I101E	48V	100V	250A	1.2J	0.500	2.0
	NVS1210J121F	60V	120V	250A	1.5J	0.400	2.0



## DIMENSIONS (mm)

Case Size	Length (L)	Width (W)	Thickness (T)	Overlap (P)
0603	1.6 ± 0.15	0.8 ± 0.15	0.9 max	0.5 max.
0805	2.0+/-0.2	1.2+/-0.2	1.0 max.	0.8 max.
1206	3.2+/-0.2	1.6+/-0.2	1.0 max	0.8 max.
1210	3.2+/-0.2	2.5+/-0.2	1.0 max	0.8 max.

## REEL QUANTITIES

Case Size	178mm (7")	254mm (10")
0603	1,000 or 4,000	10,000
0805	1,000 or 4,000	10,000
1206	1,000 or 4,000	10,000
1210	1,000 or 2,000	10,000

### NOTES:

- \*Working voltage is a maximum recommended working voltage and is specified for operation at leakage current less than 50µA..
- Peak current and clamping voltage is specified under 8/20uS test conditions.
- Transient energy specified under 10/1000uS test condition.
- Storage Temperature/Humidity: +5°C ~ +35°C, RH 40% ~ 75%