

# FUJI Ceramic Surge Absorbers

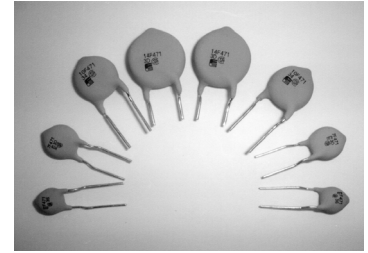
**Z-TRAP**

## ENF series

### 220 to 680V (Varistor voltage)

#### ■ Features

- Flame-resistant  
Suppress combustion and smoking after a malfunction caused by larger surge than the specified value
- Environment-friendly materials  
Adopts newly developed halogen-free resin mold and the Pb-free plated lead wires
- High reliability  
Greatly improved heat-cycle resistance
- Small size and high performance
- Ratings and specifications are same as the conventional ENE series.



#### ■ Ratings and characteristics

Device type	Maximum rating					Characteristics					
	Applied voltage *1		Transient			Nominal varistor voltage *4			Max. clamping voltage @test current (8/20µs)		Typical capacitance
	RMS 50Hz/60Hz	DC	Energy *2	Average power dissipation	Peak *3 current (8/20µs)						
	Vacm [Volts]	Vdcm [Volts]	Wtm [Joules]	Ptam [Watts]	Itm [Amps]	Vnom [Volts]	Tolerance		Vc [Volts]	Ip [Amps]	f=1kHz [pF]
					Min. [Volts]		Max [Volts]				
<b>ENF221D05A</b>	140	180	6.5	0.1	700	220	198	242	380	5	170
<b>ENF221D07A</b>			13.5	0.25	1350						
<b>ENF221D10A</b>			28.0	0.4	2750						
<b>ENF221D14A</b>			55.0	0.6	5500						
<b>ENF241D05A</b>	150	200	7.5	0.1	700	240	216	264	415	5	170
<b>ENF241D07A</b>			15.0	0.25	1350						
<b>ENF241D10A</b>			30.0	0.4	2750						
<b>ENF241D14A</b>			60.0	0.6	5500						
<b>ENF271D05A</b>	175	225	8.0	0.1	700	270	247	303	475	5	150
<b>ENF271D07A</b>			17.0	0.25	1350						
<b>ENF271D10A</b>			35.0	0.4	2750						
<b>ENF271D14A</b>			70.0	0.6	5500						
<b>ENF471D05A</b>	300	385	15.0	0.1	700	470	423	517	810	5	80
<b>ENF471D07A</b>			30.0	0.25	1350						
<b>ENF471D10A</b>			60.0	0.4	2750						
<b>ENF471D14A</b>			125.0	0.6	5500						
<b>ENF511D10A</b>	320	410	67.0	0.4	2500	510	459	561	845	25	300
<b>ENF511D14A</b>			136.0	0.6	4500						
<b>ENF621D10A</b>	385	505	67.0	0.4	2500	620	558	682	1025	25	270
<b>ENF621D14A</b>			136.0	0.6	4500						
<b>ENF681D10A</b>	420	560	67.0	0.4	2500	680	612	748	1120	25	250
<b>ENF681D14A</b>			136.0	0.6	4500						

Operating ambient temperature: -40°C to +85°C      Storage temperature: -40°C to +125°C

\*1 The waveform of the maximum DC applied voltage is flat. When a ripple voltage as from a rectifier source is applied, make sure that the peak voltage is within the Vdcm rating. The AC applied voltage (50/60Hz) is a sine waveform. When waveform distortion is extensive, make sure that the peak voltage is less than  $\sqrt{2}$  times the Vacm rating.

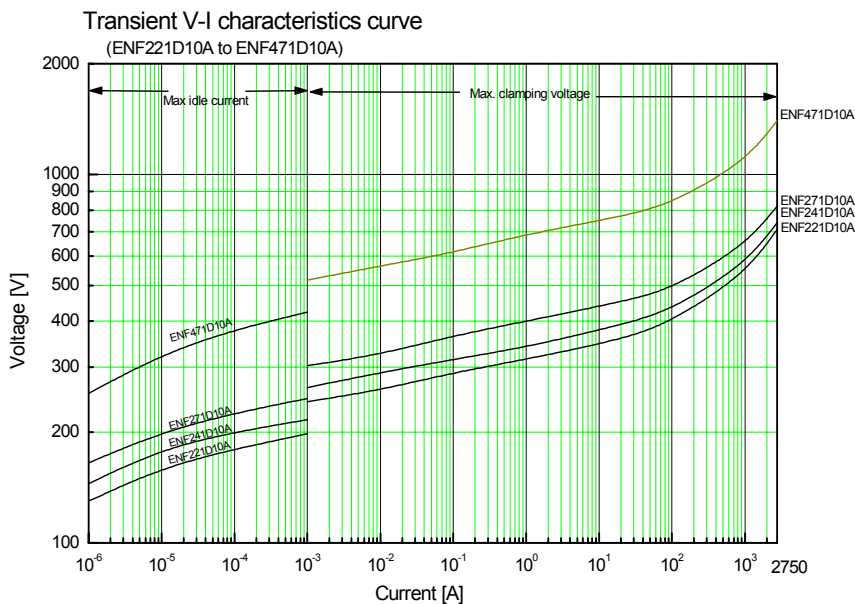
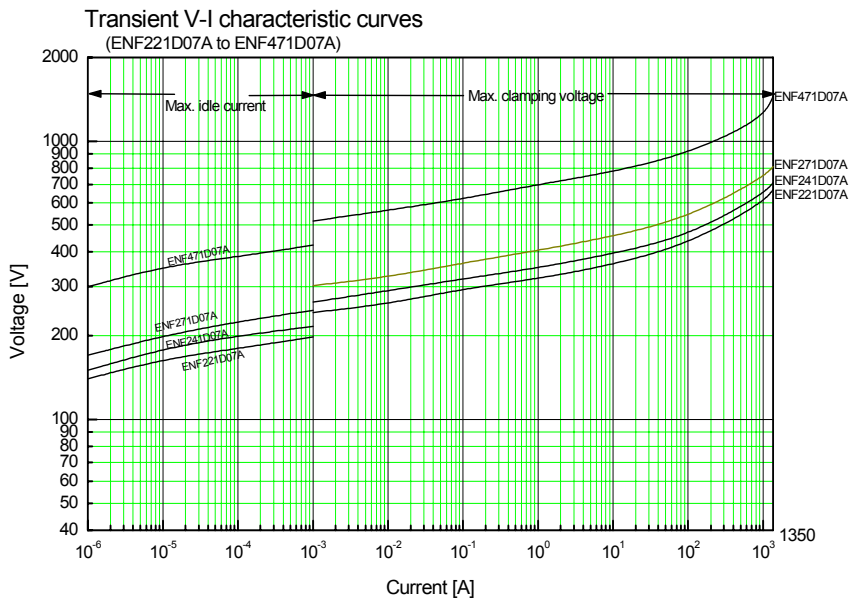
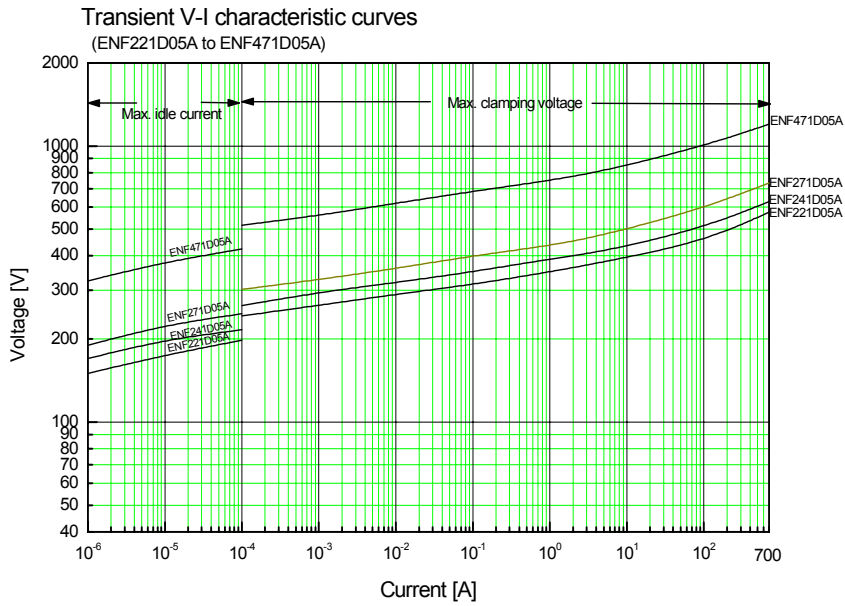
\*2 Energy Wtm  
Transient energy rating are given in the Wtm column in Joules (Watt-second). The rating is the maximum allowable energy of a single 2ms square-waveform impulse current continuously applied. Energy ratings are based on a shift of Vnom of less than  $\pm 10\%$  of the initial value.

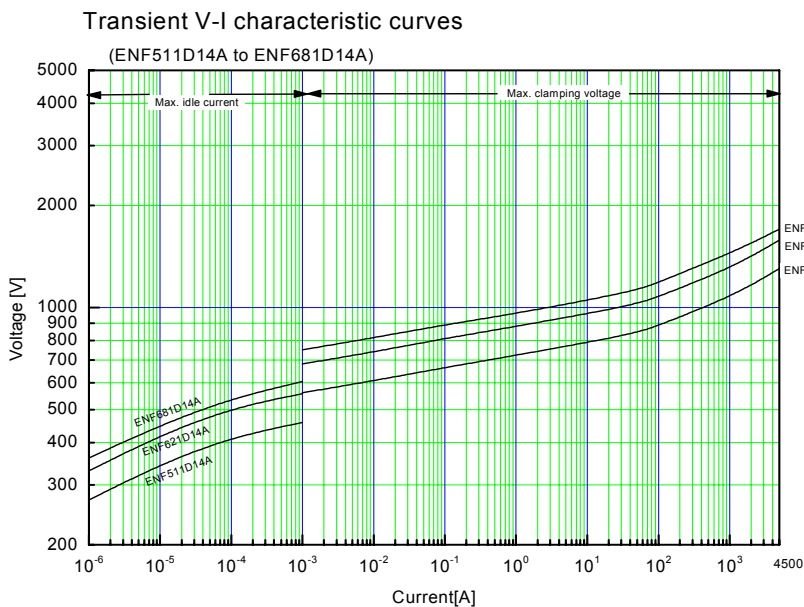
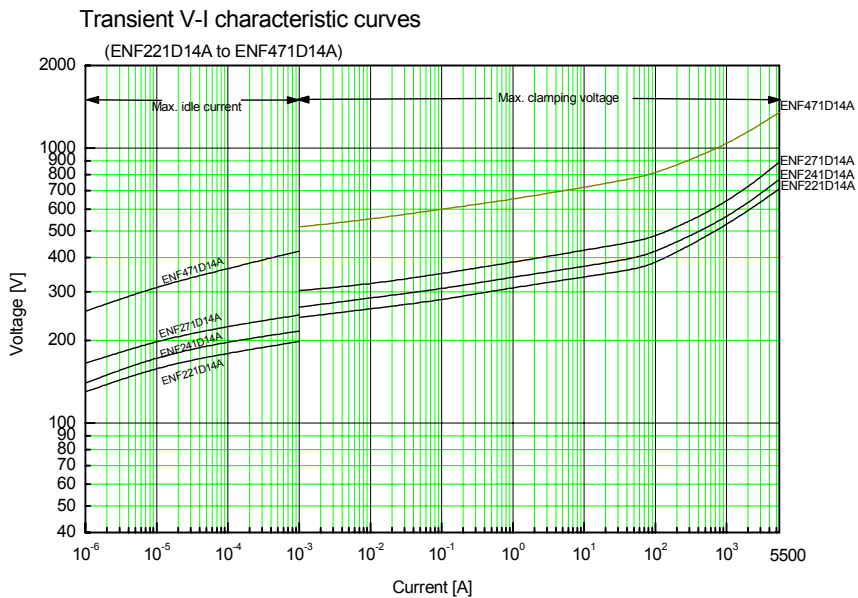
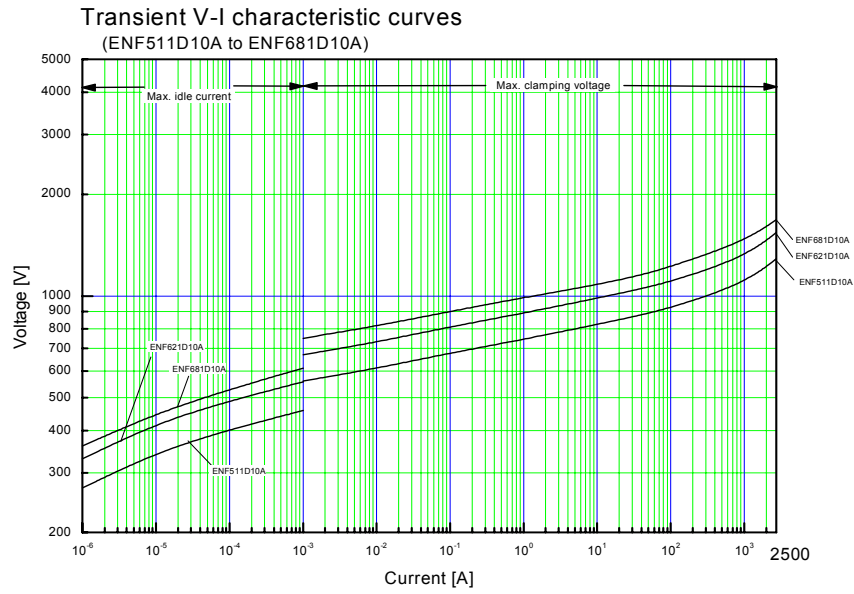
\*3 Transient peak current (Itm)  
The peak current rating, Itm, is based on 8/20µs test impulse wave form. This peak current is the maximum peak current at which the nominal varistor voltage shift dose not exceed  $\pm 10\%$  when the test impulse is applied twice at a 5 minute interval.

\*4 Nominal varistor voltage: Vnom  
Indicates the varistor terminal voltage measured with 1mA DC applied. 05A type 0.1mA DC

\*5 Maximum clamping voltage: Vc  
Indicates the peak terminal voltage measured with 8/20µs impulse current applied.

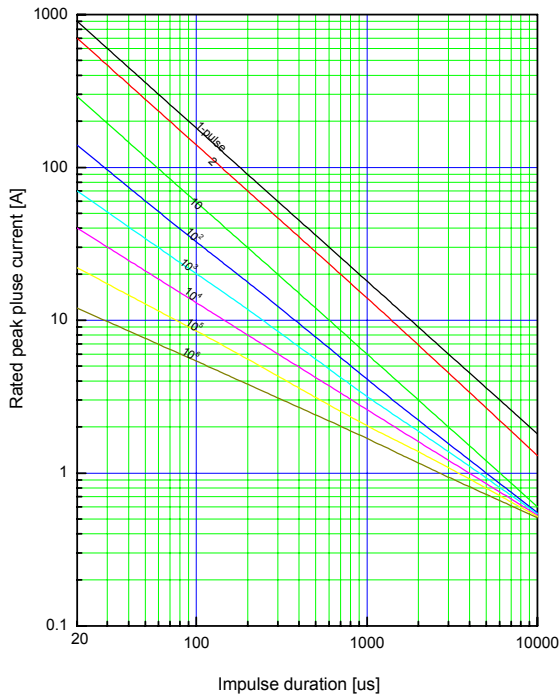
**Characteristic curves (Typical)**



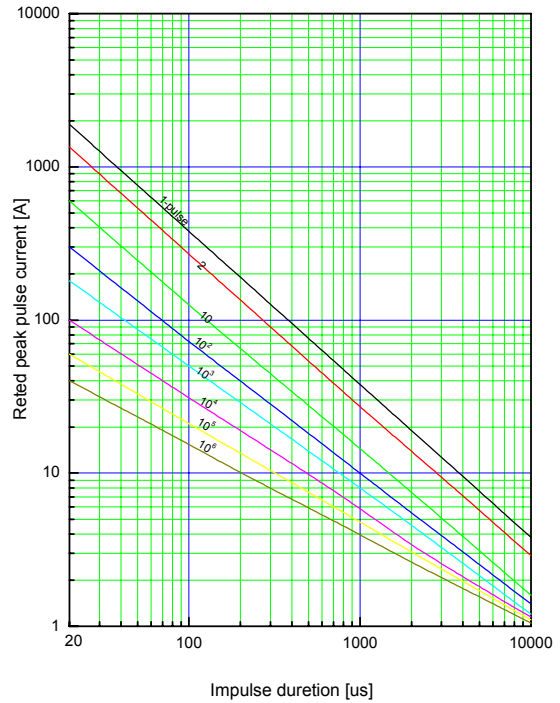


Pulse lifetime ratings

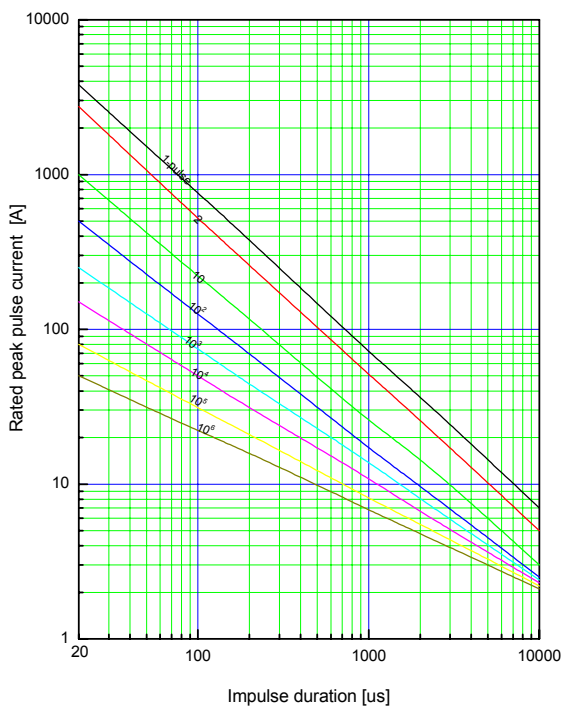
05A series (ENF221D05A to ENF471D05A)



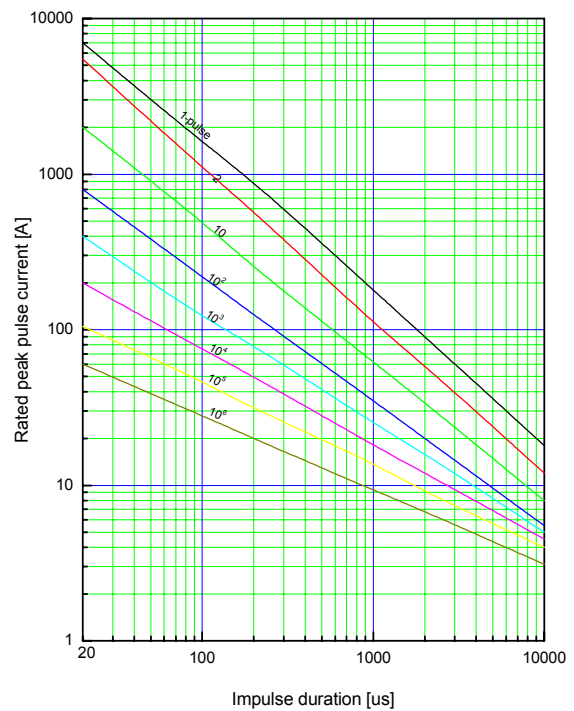
07A series (ENF221D07A to ENF471D07A)



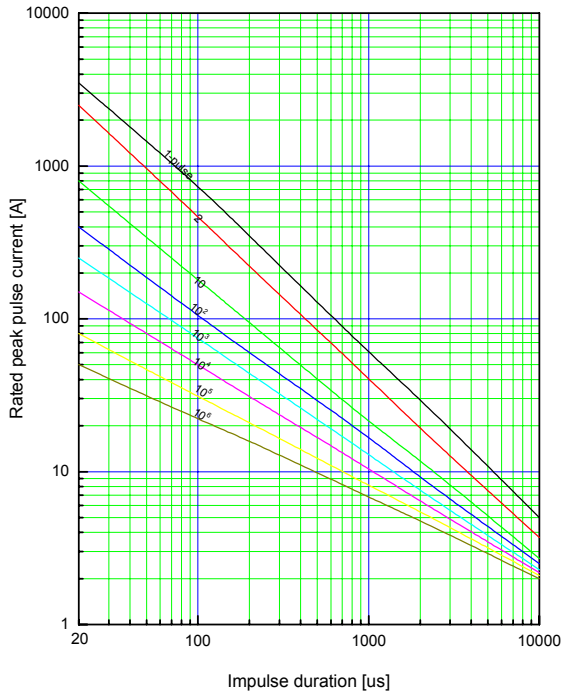
10A series (ENF221D10A to ENF471D10A)



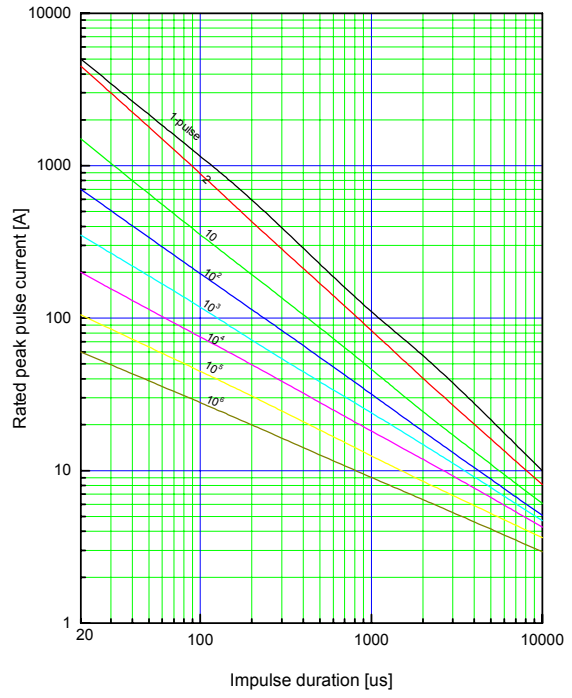
14A series (ENF221D14A to ENF471D14A)



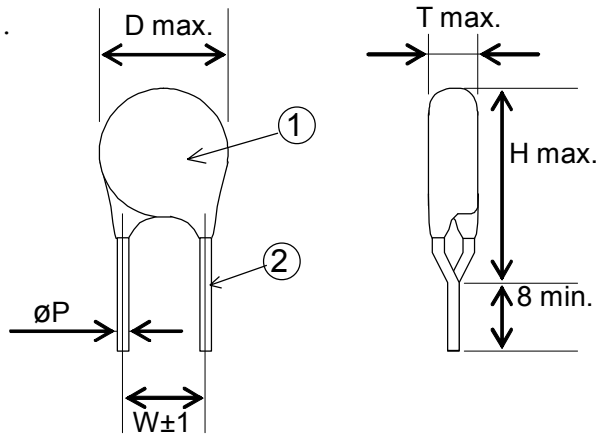
10A series (ENF511D10A to ENF681D10A)



14A series (ENF511D14A to ENF681D14A)



■ Dimensions, mm



Part	Name	Material
①	Outside resin (nonflammable resin)	Silicone resin (blue gray)
②	Lead (Pb- free)	Cu Surface conduct : Sn/Cu plated

Type number	D	H	W	T	P
ENF221D05A	7.5	14.0	5.0	4.7	0.6
ENF241D05A				4.8	
ENF271D05A				5.0	
ENF471D05A				6.0	
ENF221D07A	9.5	16.0	5.0	4.7	0.6
ENF241D07A				4.8	
ENF271D07A				5.0	
ENF471D07A				6.0	
ENF221D10A	12.0	19.0	7.5	4.9	0.8
ENF241D10A				5.0	
ENF271D10A				5.2	
ENF471D10A	13.0	20.0	7.5	6.2	
ENF511D10A				6.5	
ENF621D10A				7.1	
ENF681D10A				7.4	
ENF221D14A	16.0	23.0	7.5	4.9	0.8
ENF241D14A				5.0	
ENF271D14A				5.2	
ENF471D14A	16.5	24.0	7.5	6.2	
ENF511D14A				6.5	
ENF621D14A				7.1	
ENF681D14A				7.4	

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  - Machine tools
  - Audiovisual equipment
  - Electrical home appliances
  - Personal equipment
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  - Safety devices
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  - Submarine repeater equipment
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