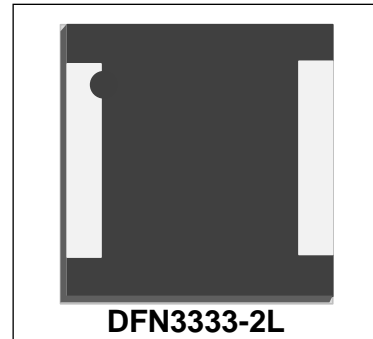


Thyristor Surge Protector

Features

- Low profile
- Small footprint
- Low capacitance
- Low voltage overshoot
- Low on-state voltage
- Fails short circuit when surged in excess of ratings



Schematic Symbol



Main Application

RS's thyristor surge protector devices are designed to help protect sensitive telecommunication equipment from the hazards caused by lightning, power contact, and power induction. These devices enable equipment to comply with various regulatory requirements including GR 1089, ITU K.20, K.21, and TIA-968-A (formerly known as FCC Part 68).

Typical application including:

- Central office switching equipment, Analog and digital linecards (xDSL, T1/E1, ISDN...).
- Customer Premises Equipment (CPE) such as phones, fax machines, modems, POS terminals, PBX systems and caller ID adjunct boxes.
- Primary protection modules including Main Distribution Frames (MDF), building entrance equipment and station protection modules.
- Access network equipment such as remote terminals, line repeaters, multiplexers, cross-connects, WAN equipment, Network Interface Devices (NID).
- Data lines and security systems.
- CATV line amplifiers and power inserters & Sprinkler systems.

Absolute Maximum Ratings (TA =25° C)

Parameter	Symbol	Value	Unit
Minimum Non-repetitive peak impulse current 10/1000µs**、 10/1000µs*	I _{PPSM}	100	A
Minimum Non-repetitive peak impulse current 10/700µs**、 5/310µs*	I _{PPSM}	150	A
Operating Junction Temperature range	T _J	-40 to + 150	°C
Storage Temperature range	T _s	-65 to + 150	°C
Thermal Resistance: Junction to Ambient	R _{ΘJA}	120	°C/W

Electrical Parameters (T=25°C)

Part Number	Marking code	V _{DRM}	I _{DRM}	V _s @100V/μs	I _H	I _s	I _T	V _T @I _T	Co @1MHz,2V bias	
		Max.	Max.	Max.	Min.	Max.	Max.	Max.	Min.	Max.
		V	μA	V	mA	mA	A	V	pF	pF
RSOS4 -100/6AS	-8DC	6	5	25	50	800	2.2	5	35	75
RSOS4 -100/25AS	03DC	25	5	40	50	800	2.2	5	25	45
RSOS4 -100/58AS	06DC	58	5	77	150	800	2.2	5	55	85
RSOS4 -100/65AS	07DC	65	5	88	150	800	2.2	5	50	75
RSOS4 -100/75AS	09DC	75	5	98	150	800	2.2	5	45	70
RSOS4 -100/90AS	11DC	90	5	130	150	800	2.2	5	45	70
RSOS4 -100/120AS	13DC	120	5	160	150	800	2.2	5	40	60
RSOS4 -100/140AS	15DC	140	5	180	150	800	2.2	5	35	55
RSOS4 -100/170AS	18DC	170	5	220	150	800	2.2	5	35	50
RSOS4 -100/190AS	23DC	190	5	260	150	800	2.2	5	30	50
RSOS4 -100/220AS	26DC	220	5	300	150	800	2.2	5	30	45
RSOS4 -100/275AS	31DC	275	5	350	150	800	2.2	5	30	45
RSOS4 -100/320AS	35DC	320	5	400	150	800	2.2	5	25	40
RSOS4 -100/400AS	45DC	400	5	530	50	800	2.2	5	25	45

Note: * Current waveform in μs ** Voltage waveform in μs

Electrical Parameters (T=25°)

V_{DRM}: Stand-off voltage.

I_{DRM}: Leakage current at V_{DRM}.

V_s: Breakover voltage, is measured at 100V/μs.

I_s: Breakover current.

V_T: On-state voltage.

I_T: On-state current.

Co: Off-state capacitance.

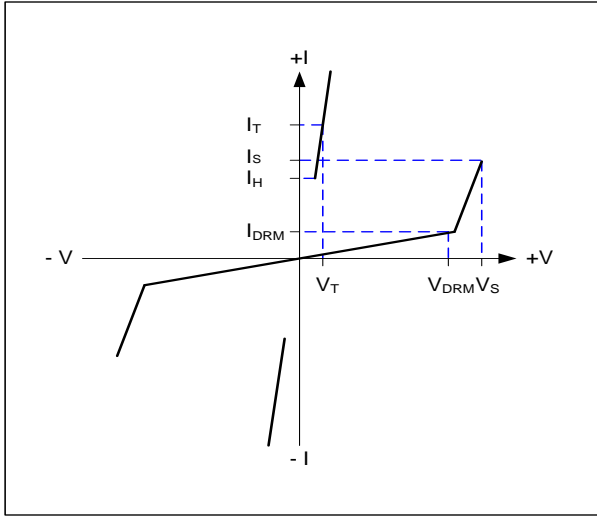
I_H: Holding current.

I_{PP}: Peak pulse current, is a repetitive surge rating and is guaranteed for the life of the product.

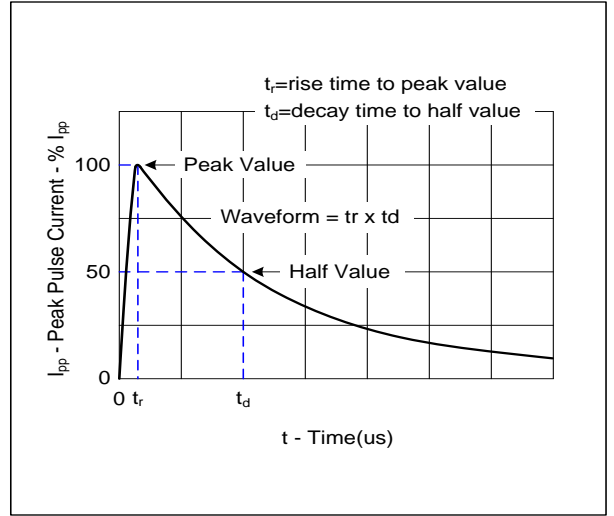
General Notes:

- All measurements are made at an ambient temperature of 25 °C. I_{PP} applies to -40 °C through +85 °C temperature range.
- WEOS4 devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- Special voltage (V_s and V_{DRM}) and holding current (I_H) requirements are available up on request. Off-state capacitance is measured at 1 MHz with a 2 V bias

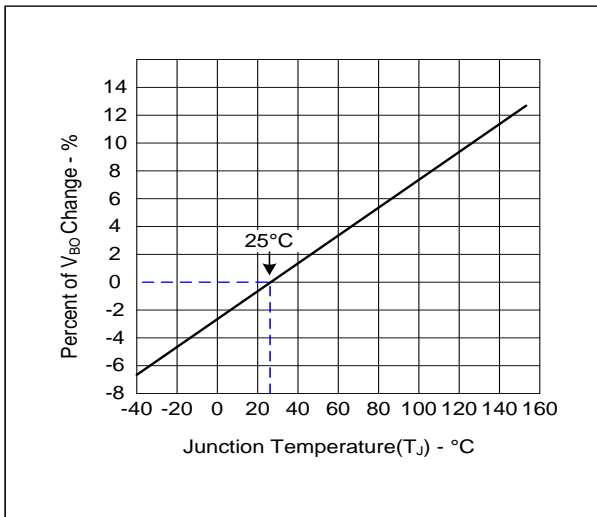
Electrical Characteristics Curves



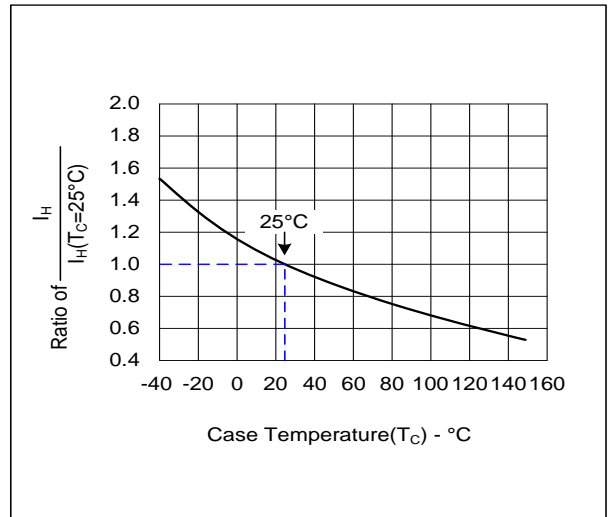
V - I Characteristics



$t_r \times t_d$ Pulse Waveform



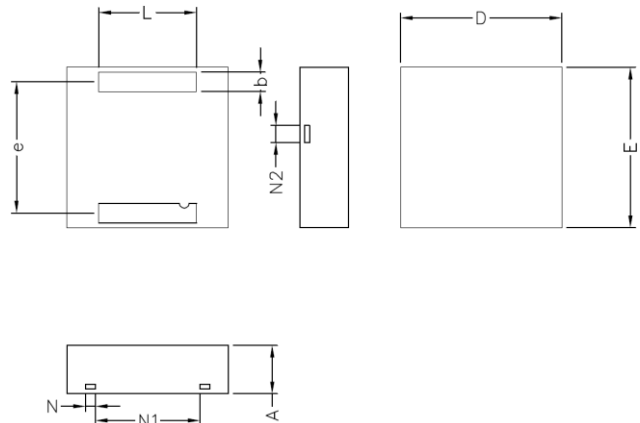
Normalized V_{BO} Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature

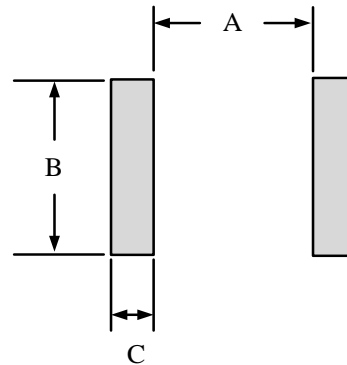
Product Dimensions

Ref. (mm)	Min.	Typ.	Max.
A	0.95	1.00	1.05
b	0.35	0.40	0.45
D	3.25	3.30	3.35
e	2.70BSC		
E	3.25	3.30	3.35
L	1.95	2.00	2.05
N	0.15	0.20	0.25
N1	2.09	2.14	2.19
N2	0.30	0.35	0.40

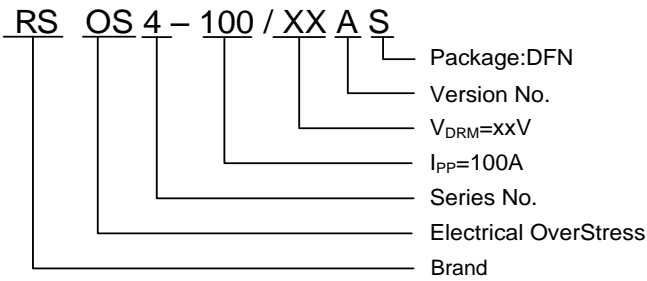


Recommended Solder Pad Layout

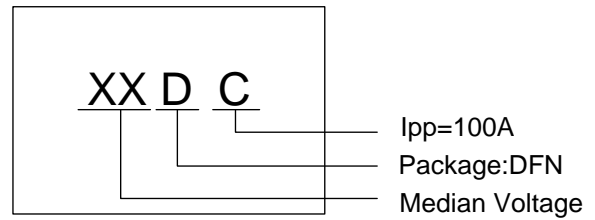
DIM(mm)	MILLIMETERS
A	2.10
B	2.50
C	1.00



Part Numbering System:



Marking:



Package Information

Package Type	Description	Quantity (pcs)
DFN3333-2L	Tape & Reel Pack	5000