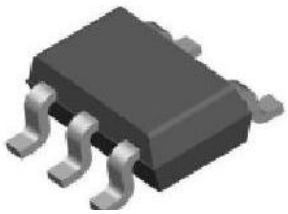
WEOS5-012P5

Ultra-low Capacitance Thyristor Surge Protector

Features

- Compatible with VDSL2、ADSL2
- Low Capacitance and Leakage Current
- Balanced overvoltage protection
- Low Clamping Voltage
- Flow-through design
- Low insertion loss

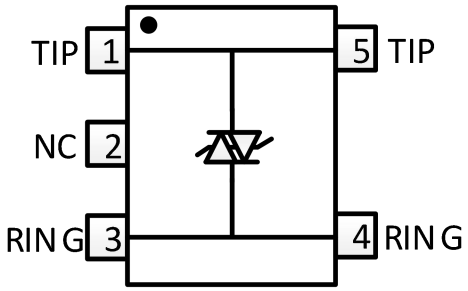


SOT23-5

Standards Compatibility

- GR 1089 Intra-building
- IEC 61000-4-2
- IEC 61000-4-5
- ITU K.20/21/45 Basic Level
- IITU K.20/21/45 Enhanced Level

Schematic&PIN Configuration



Main Application

The Ultra-low Capacitance series provides overvoltage protection for applications such as VDSL2, ADSL2, and ADSL2+ with minimal effect on data signals. The device is also bi-directional between pin1 to pin3. All electrical parameters and surge ratings apply to forward and reverse polarities.

Maximum Surge Ratings(between pin1 and pin 3, T_A=25℃)

Parameter	Symbol	Value	Unit
Non-repetitive impulse current 8/20※&1.2/50※※(IEC 61000-4-5)	I_{PP}	70	A
Non-repetitive impulse current 5/310※&10/700※※(IEC 61000-4-5)	I_{PP}	20	A

Notes: ※Current waveform in μs, ※※Voltage waveform in μs.

Electrical Characteristics (between pin 1 and pin 3, T_A = 25°C)

Part Number	V_{DRM}	I_{DRM}@V_{DRM}	V_S	I_H	V_T @I_T=1.0A	C_O @f=1MHz，2V	
	V	μA	V	mA	V	pF	pF
	Max.	Max.	Max.	Typ.	Max.	Typ.	Max.
WEOS5-012P5	12	1	20	55	4.0	9.0	9.5

V_{DRM}: Stand-off voltage, is measured at 1mA.

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

V_S: Breakdown voltage, is measured at 100V/μs.

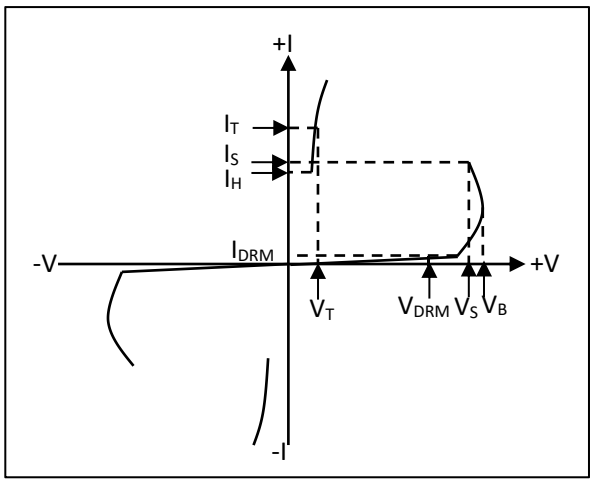
I_H: Holding curren.

Co: Off-state capacitance.

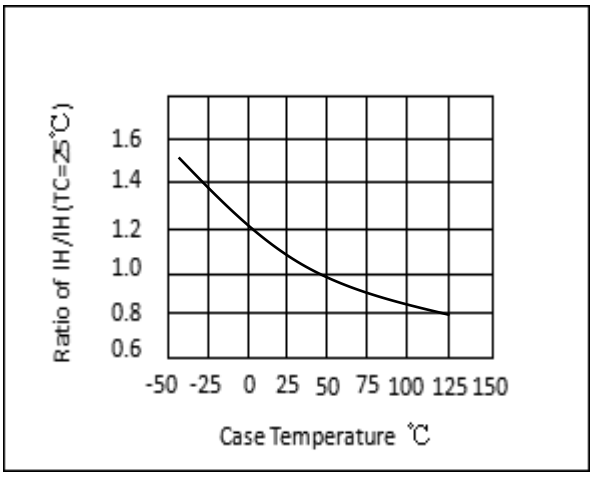
Thermal Information

Symbol	Parameter	Value	Unit
T_S	Storage temperature range	-55 to +150	°C
T_J	Junction temperature range	-40 to +125	°C

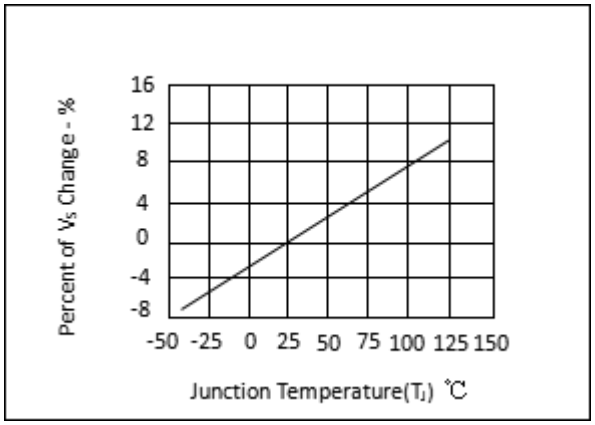
Electrical Characteristics Curves



V-I Characteristics



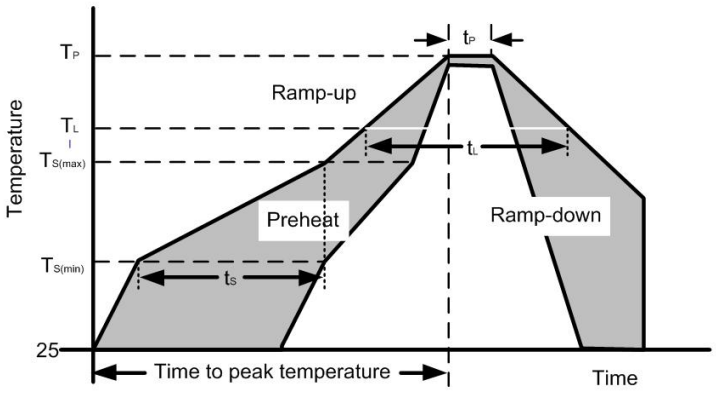
Normalized Holding Current vs. Case Temperature



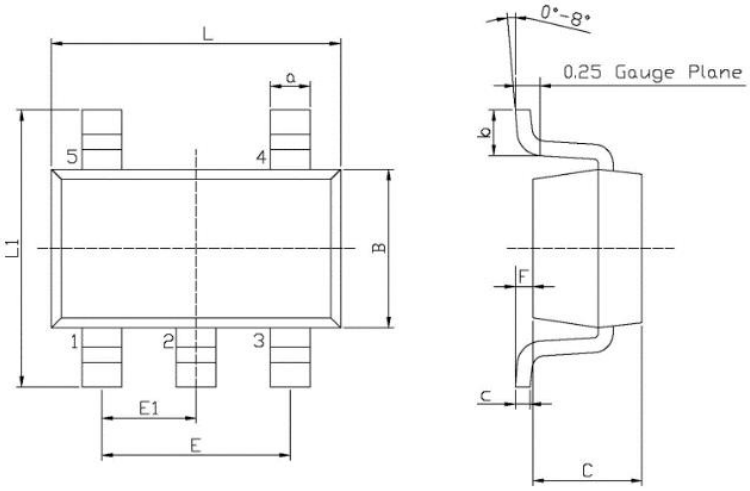
Normalized V_S Change vs.Junction Temperature

Soldering Parameters

Reflow Condition		
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60-190 s
Average ramp up rate (Liquidus Temp) (T_L) to peak		3°C/s max
Ts(max) to TL - Ramp-up Rate		3°C/s max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60-150 s
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within actual peak Temperature (t_p)		20-40 s
Ramp-down Rate		5°C/s max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C



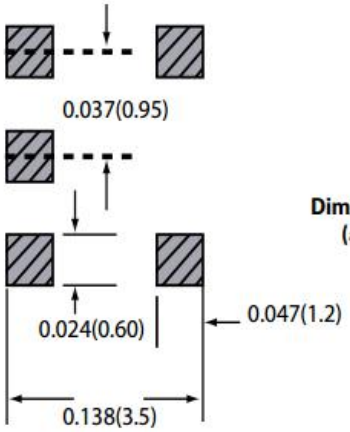
Product Dimensions



Unit: mm

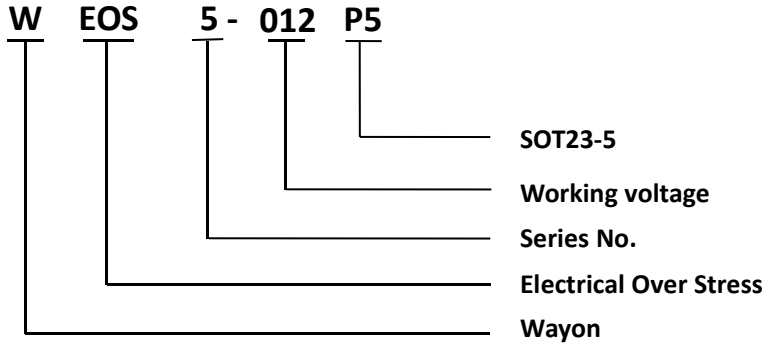
Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20
L1	2.60	3.00	b	0.35	0.55
E	1.80	2.00	F	0	0.15

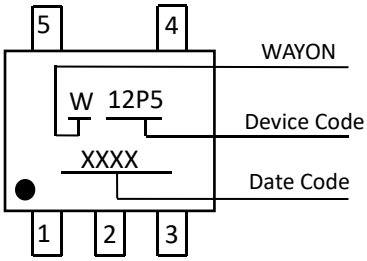
Recommended Solder Pad Layout



Dimension are in inches
(and millimeters).

Part Numbering System and Marking





Package Information

Package Type	Description	Quantity（pcs）
SOT23-5	Tape & Reel Pack	3000

Contact Information

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For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.