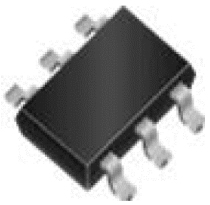
WEOS5-024GF

Ultra-low Capacitance Thyristor Surge Protector

Features

- Compatible with VDSL2、ADSL2
- Low Capacitance and Leakage Current
- Balanced overvoltage protection
- Low Clamping Voltage
- Response Time under 500ns
- Low insert loss



SOT23-6

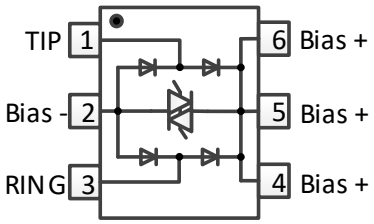
Standards Compatibility

- ANSI/IEEE C62.41
- IEC 61000-4-5, 30A (t_P=8/20μs)
- IEC 61000-4-2 level 4

  --15KV（air discharge）

  --8KV（contact discharge）

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. When the voltage between Tip and Ring exceeds the reference voltage, the WEOS5-024GF device will work under 500ns. 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}	30	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_{BO}	I_H	C_O @f=1MHz，2V	Delta C_O @Line Bias=1V to V_{DRM}
	V	nA	V	mA	pF	pF
	Max.	Max.	Max.	Typ.	Max.	Max.
WEOS5-024GF	24	100	40	40	3.0	0.5

V_{DRM}: Stand-off voltage, is measured at 100nA.

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

V_{BO}: Breakover voltage, is measured at 100V/μs.

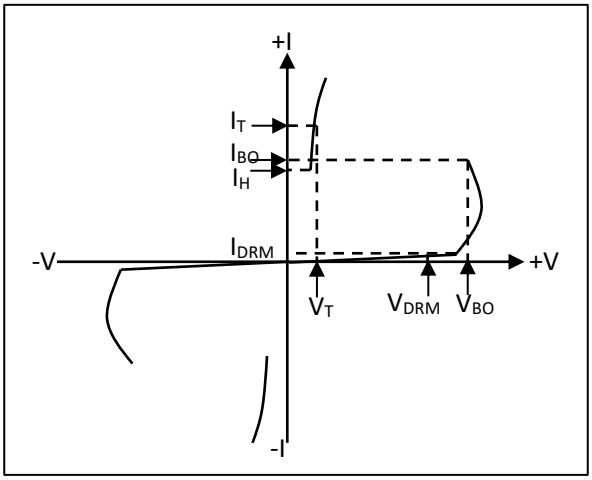
I_H: Holding current.

C_O: Off-state capacitance.

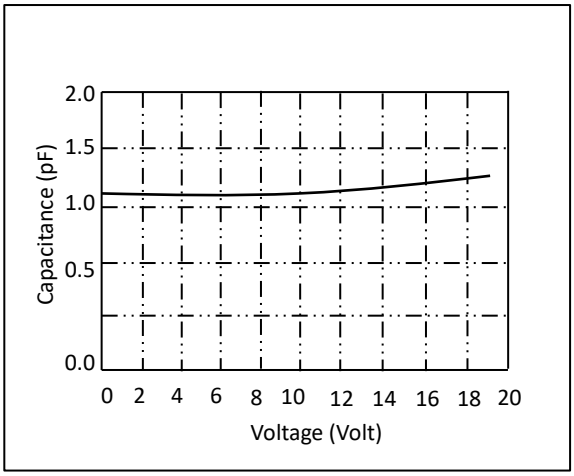
Thermal Information

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

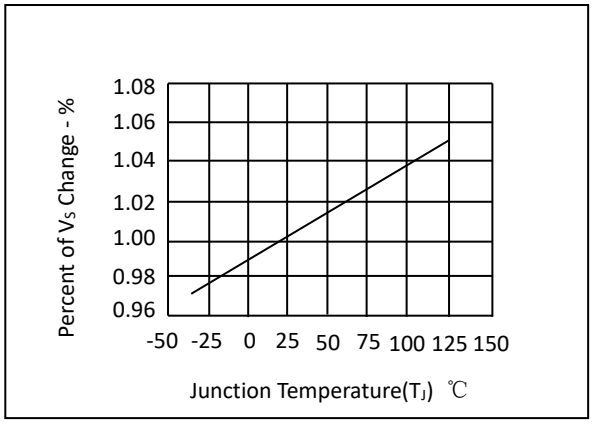
Electrical Characteristics Curves



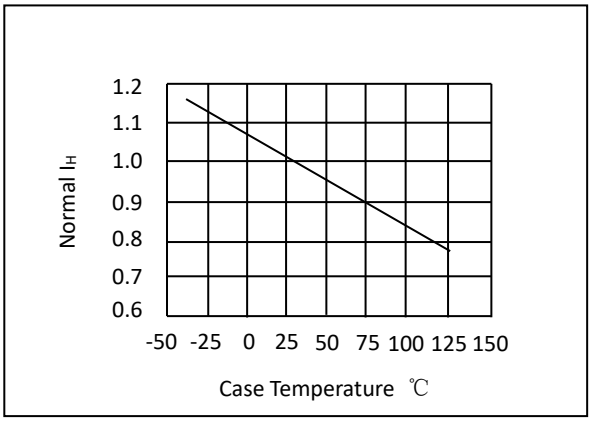
V-I Characteristics



Typical capacitance against line voltage
(without external bias)



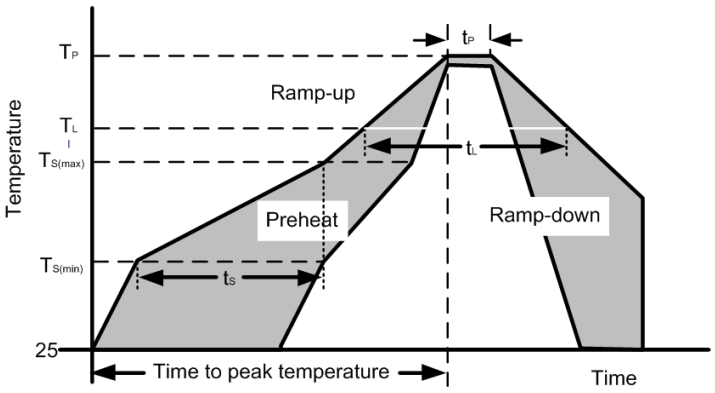
Normalized V_S Change vs.Junction Temperature



Normalized Holding Current vs. Case Temperature

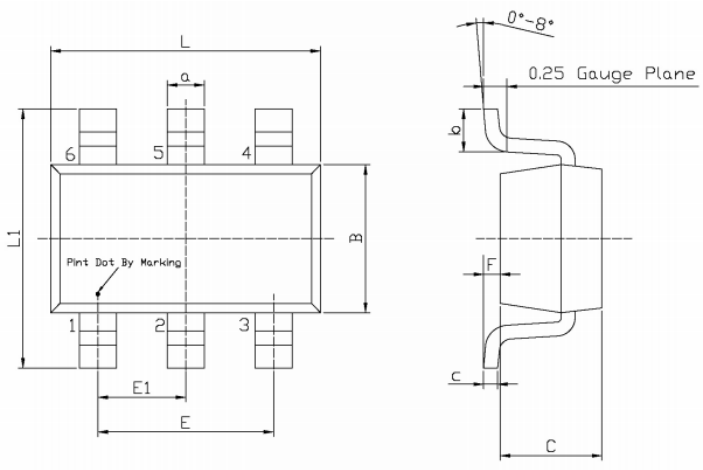
Soldering Parameters

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



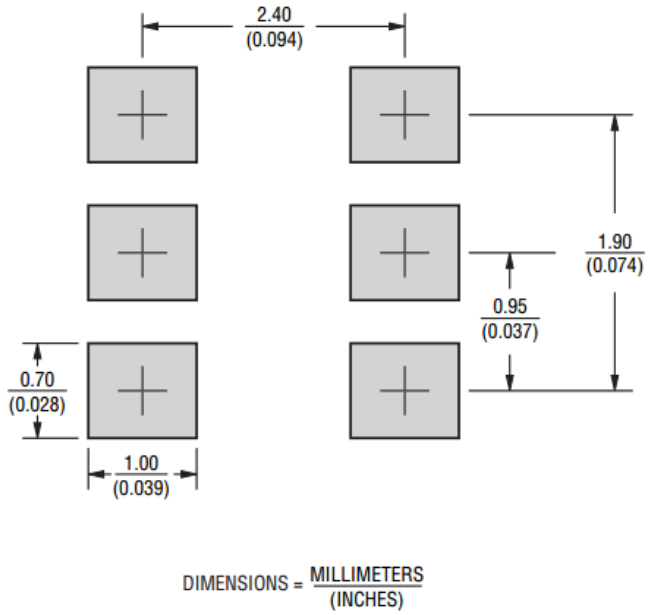
Product Dimensions

Unit：mm

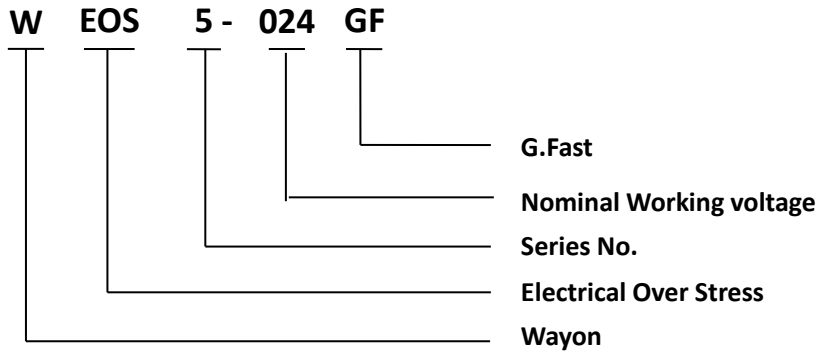


Symbol	Dimensions In Millimeters	
	Min	Max
L	2.82	3.02
B	1.50	1.70
C	0.90	1.30
L1	2.60	3.00
E	1.80	2.00
E1	0.85	1.05
a	0.30	0.50
c	0.10	0.20
b	0.35	0.55
F	0	0.15

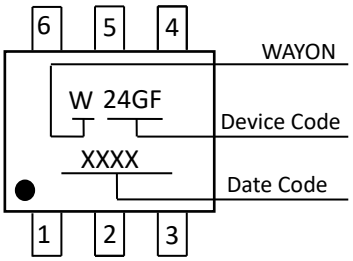
Recommended Solder Pad Layout



Part Numbering System and Marking



Marking：



Package Information

Package Type	Description	Quantity（pcs）
SOT23-6	Tape & Reel Pack	3000

Contact Information

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