



WEOS4-100/400AS

Thyristor Surge Protector

Features

- Bi-directional crowbar transient voltage protection
- High surge capability
- High off-state impedance, Low leakage current
- Short-circuit failure mode
- Low on-state voltage



Main Application

- Data lines and security systems.
- CATV line amplifiers and power inserters.
- Sprinkler systems.

Absolute Maximum Ratings (TA =25°C)

Parameter	Symbol	Value	Unit
Non-repetitive peak impulse current 10/1000 μ s (Telcordia GR-1089-CORE)	I_{PPSM}	100	A
Non-repetitive peak impulse Voltage 10/700 μ s (ITU-T K.20, K.21 & K.44, K.45)	V_{PPSM}	6000	V

Electrical Parameters (TA =25°C)

Part Number	V_{DRM}	I_{DRM}	V_{BO}	I_{BO}	V_T	I_T	C_o	I_H
	Max.	Max.	Max.	Max.	Max.	Max.	Typ.	Typ.
	V	μ A	V	mA	V	A	pF	mA
WEOS4-100/400AS	400	5	540	800	4	2.2	45	50

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

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

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

I_{BO} : Breakover current.

V_T : On-state voltage.

I_T : On-state current.

C_o : Off-state capacitance.

I_H : Holding current.

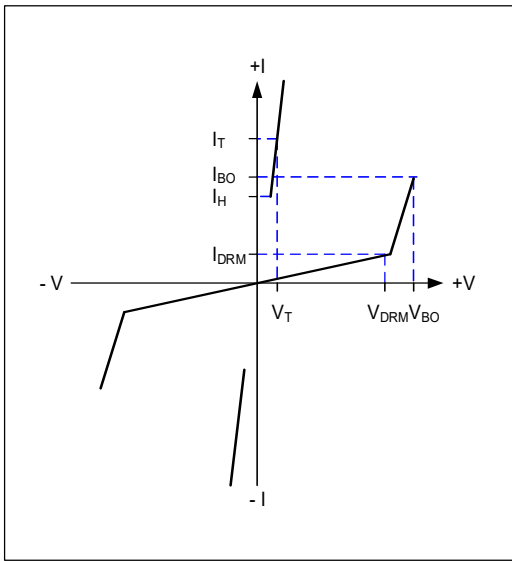
I_{PP} : Peak pulse current, is a repetitive surge rating and is guaranteed for the life of the product.

V_{ppsm} : Peak pulse voltage, is a repetitive surge rating and is guaranteed for the life of the product.

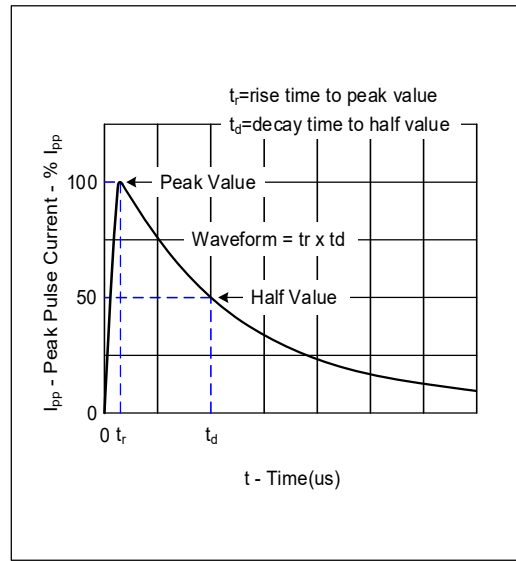
General Notes:

- 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_{BO} 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.

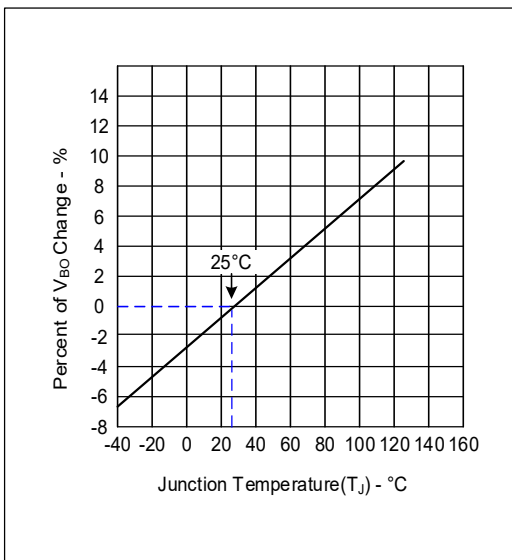
Electrical Characteristics Curves



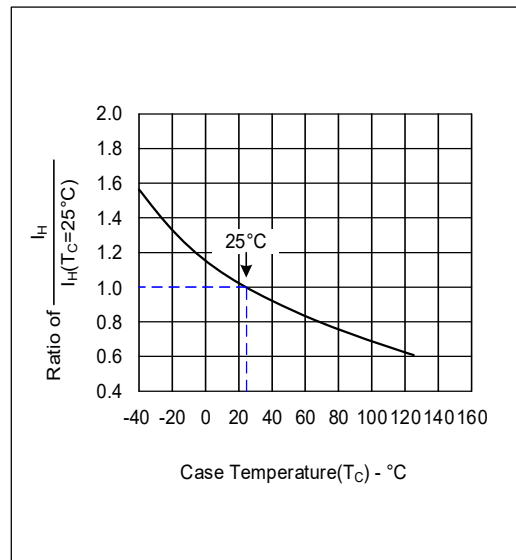
V - I Characteristics



$t_r \times t_d$ Pulse Waveform



Normalized V_{BO} Change versus Junction Temperature



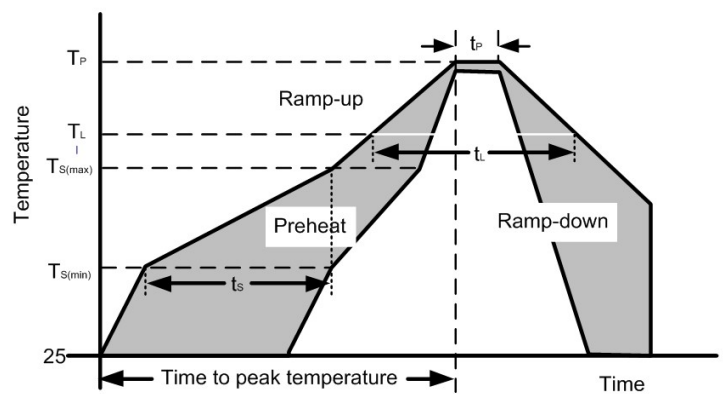
Normalized DC Holding Current versus Case Temperature

Thermal Resistances

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

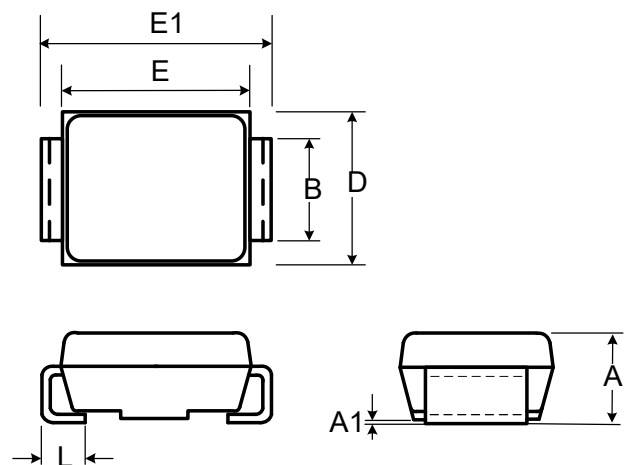
Soldering Parameters

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



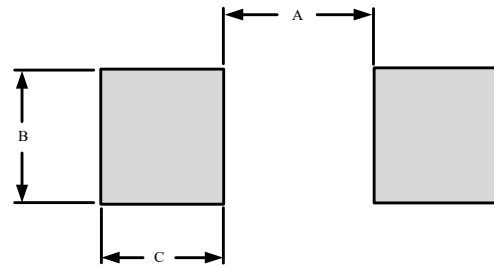
Product Dimensions

Ref. (mm)	Min.	Max.
A	2.130	2.600
A1	-	0.300
B	1.900	2.200
E	4.100	4.750
E1	5.210	5.590
D	3.300	3.940
L	0.760	1.520

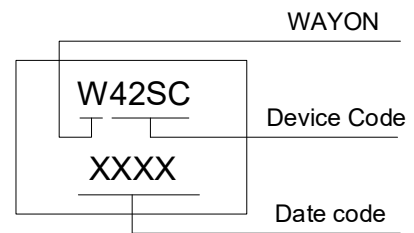
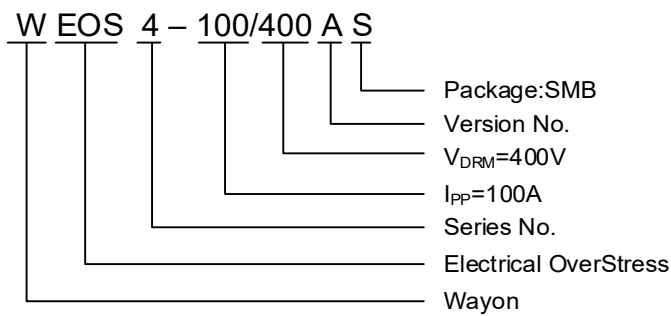


Recommended Solder Pad Layout

DIM(mm)	MILLIMETERS
A	2.74
B	2.26
C	2.16



Part Numbering System and Marking



Package Information

Package Type	Description	Quantity (pcs)
SMB(DO-214AA)	Tape & Reel Pack	2500

Contact Information

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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.*