FEATURES

- VIN Operating Range: 30V
- Internal OVP: 6.2V
- OVP Response time:100ns
- Internal OCP: 1.5A
- Typical Ron: 300mΩ
- SOT-23 package

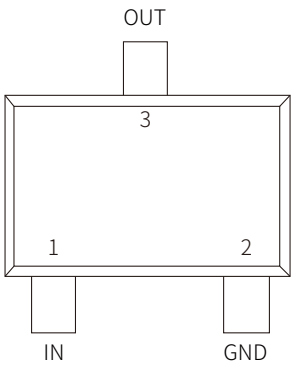
SOT-23

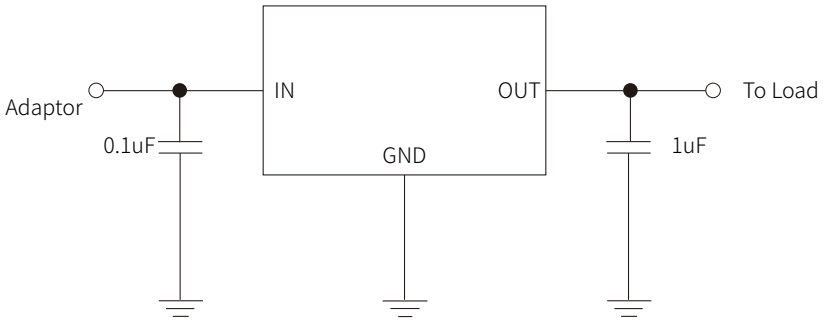
DESCRIPTION

SOV2210 is an overvoltage and overcurrent protection chip. The chip has a built-in high withstand voltage protection MOSFET with a maximum withstand voltage of 30V. The chip overvoltage protection voltage is fixed at 6.2V and the overcurrent protection is fixed at 1.5A. During operation, the chip will continue to detect the input voltage and current. Once the input voltage is detected to be greater than 6.2V or the output current is greater than 1.5A, the internal switch MOSFET will be immediately turned off to effectively protect the safety of subsequent equipment.

APPLICATIONS

- E-cigarettes, portable devices, etc.





Parameter	Symbo	Description
1	IN	Input pin
2	GND	Power ground
3	OUT	Output pin

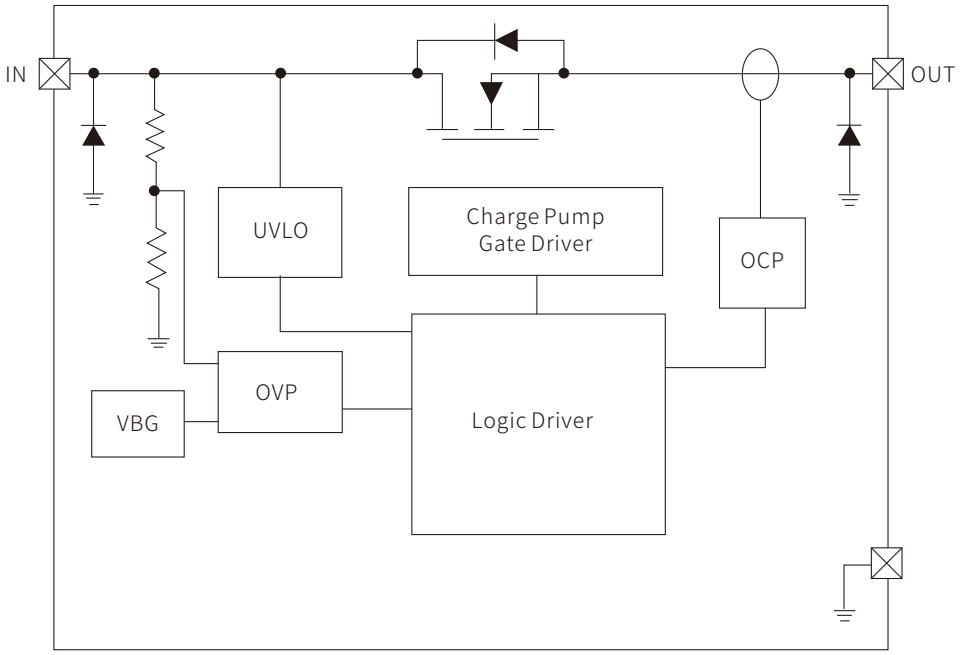
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbo	Min.	Max.	Unit
Input voltage	IN	-0.3	30	V
Output voltage	OUT	-0.3	7	V
Storage temperature	TSTG	-50	155	°C
Operation temperature	TOP	-20	125	°C
Thermal resistance	θJA	260		°C/W
Power dissipation	PMAX		0.4	W
ESD	HBM	2		KV

ELECTRICAL CHARACTERISTICS

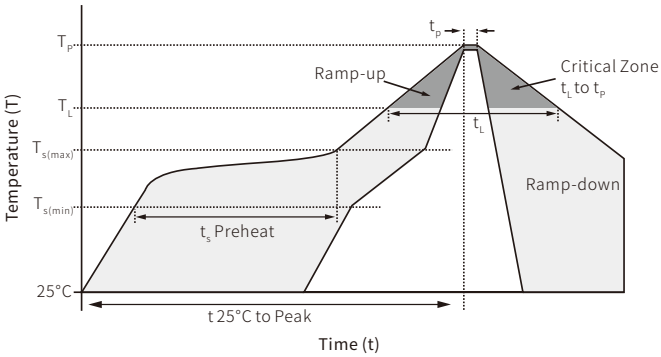
Parameter	Symbo	Test Condition	Min.	Typ.	Max.	Unit
VIN operating voltage	V_{IN}		4		30	V
OVP active time	V_{OVP}	5V to 10V		6.2		V
OVP recovery time	ΔV_{OVP}	10V to 5V		0.3		V
V_{IN}-to-V_{OUT} ON resistance	R_{ON}	IOUT=1A		300		mΩ
OCP threshold	I_{OCP}			1.5		A

SCHEMATIC DIAGRAM

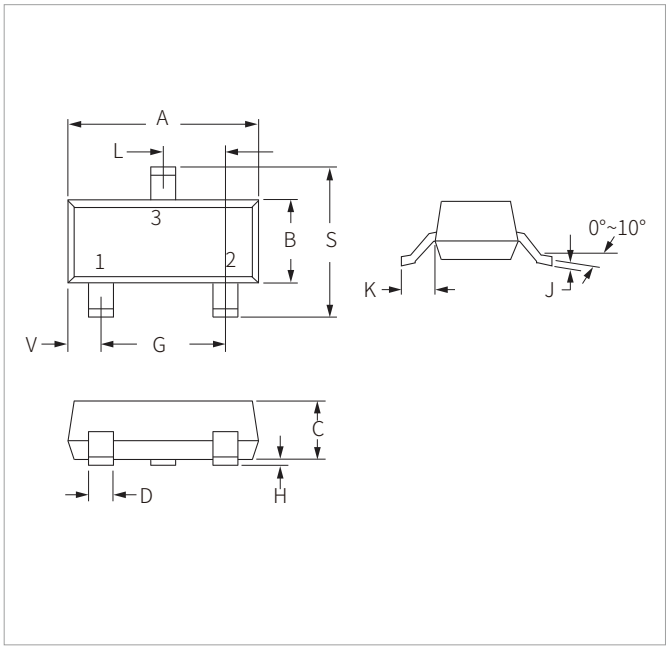


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_P)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

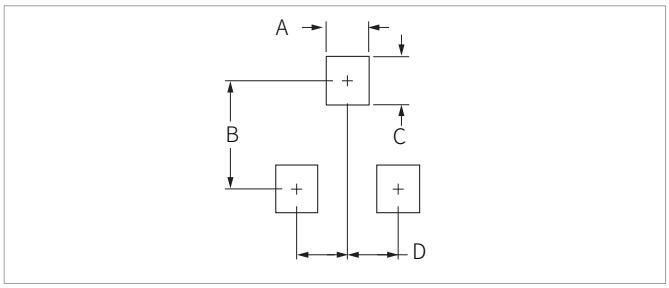


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.05	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.90	1.15	0.035	0.045
D	0.37	0.50	0.015	0.020
G	1.75	2.05	0.069	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.65	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SOV2210	SOT-23	3000PCS	7”

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