

DESCRIPTION

The SE23T20B24B is a standard capacitance transient voltage suppressor array, designed to protect applications such as portable electronics and SMART phones. It is rated at 200 Watts for an 8/20 μ s waveshape.

The SE23T20B24B meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This product offers a low leakage current in a miniature SOT-23 package.

FEATURES

- >200 Watts Peak Pulse Power per Line (tp=8/20 μ s)
- >Protects Two Lines
- >Operating voltage: 24V
- >Low clamping voltage
- >Weight: 8.0mg

APPLICATIONS

- >Dual CAN BUS Protection
- >USB 2.0 power and data line
- >Digital video interface (DVI)
- >Notebook Computers
- >SIM Ports
- >10/100 Ethernet

IEC COMPATIBILITY

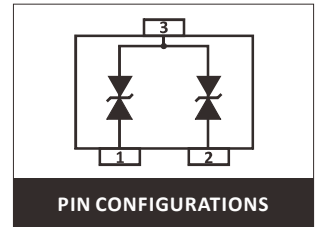
- >IEC61000-4-2 (ESD) ± 25 kV (air), ± 15 kV (contact)
- >IEC61000-4-4 (EFT) 40A (5/50ns)
- >IEC61000-4-5 (Lightning) 3A (8/20 μ s)

MAXIMUM RATINGS @ 25°C UNLESS OTHERWISE SPECIFIED

PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power (tp=8/20 μ s waveform)	PPP	200	Watts
Lead Soldering Temperature	T _L	260(10 sec.)	°C
Operating Temperature Range	T _J	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C UNLESS OTHERWISE SPECIFIED

PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _C @1A	V _C		I _R	C _T
		(V) Max.	(V) Min.	(mA)	Max.	Max.	@A	(μ A) Max.	(pF) Typ.
SE23T20B24B	SCH	24.0	26.7	1	40.0	45.0	3.0	1	17

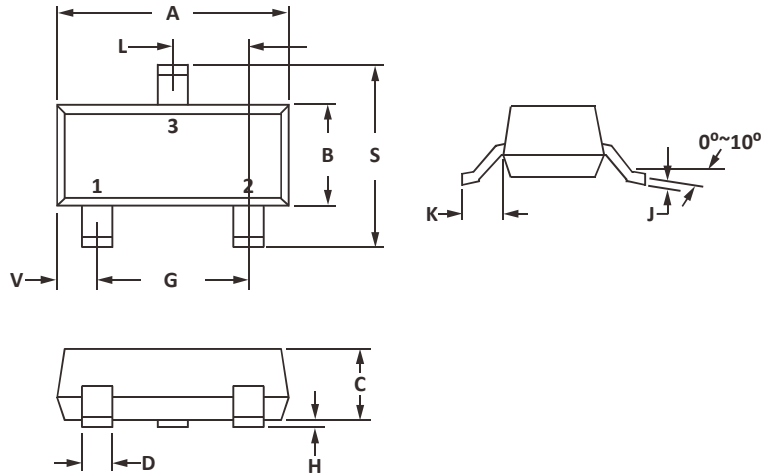


SOT-23 PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.013	0.100	0.001	0.004
J	0.085	0.177	0.003	0.007
K	0.45	0.60	0.018	0.024
L	0.89	1.02	0.035	0.040
S	2.10	2.50	0.083	0.098
V	0.45	0.60	0.018	0.024

NOTES

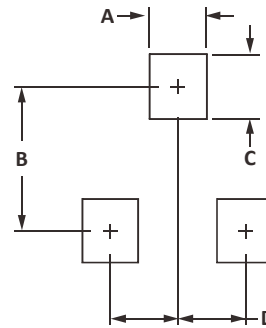
- Controlling dimension: inches.
- Dimensions are exclusive of mold flash and metal burrs.



PAD LAYOUT DIMENSIONS				
DIM	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

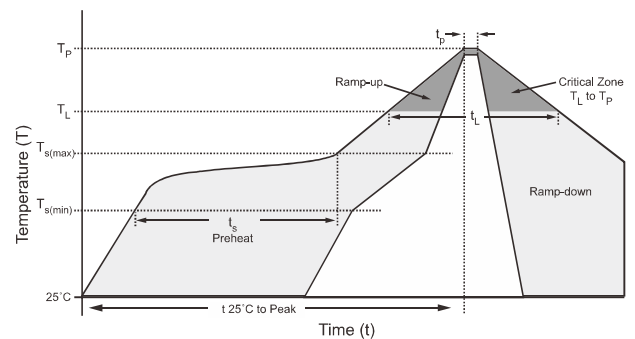
NOTES

- Controlling dimension: inches.



SOLDERING PARAMETERS

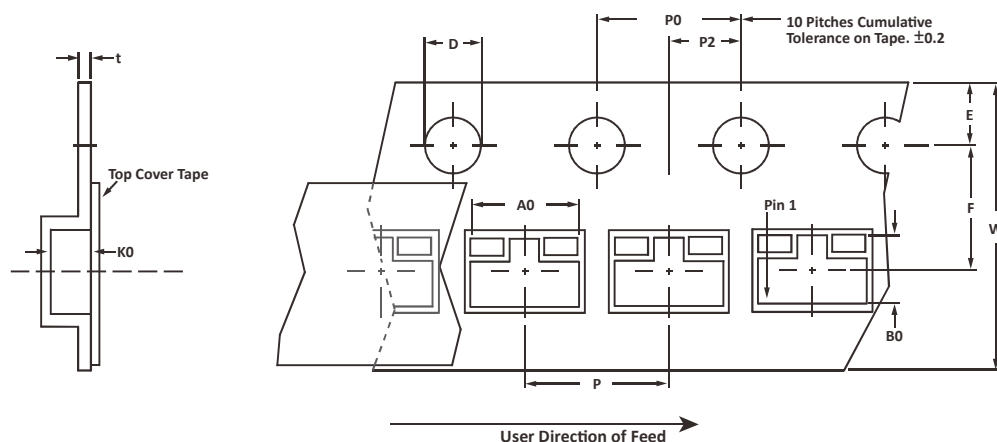
Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
Ts(max) to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	Time (min to max) (ts)	60 – 150 seconds
Peak Temperature (TP)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		260°C



ENVIRONMENTAL CHARACTERISTICS

Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: $150 \pm 3^{\circ}\text{C}$; Bias = $80\% V_{\text{DRM}}$; Time: 168H
High Temperature Life Test	Temperature: 150°C ; Time: 168H
High-Low Temperature Cycle Test	Temperature: From -40°C to 150°C ; Dwell Time: 30min, 10-100 Cycles
High Temperature & High Humidity Test	Temperature: 85°C . Humidity: 85%; Time: 168H
Pressure Cooker Test	Temperature: 121°C , 2 atm. Humidity: 100%; Time: 24H To 168H
Resistance Of Soldering Heat	Temperature: $260 \pm 5^{\circ}\text{C}$; Time Of Dip Soldering: 10s, 3 Times

TAPE AND REEL



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	3.15 ± 0.10	2.77 ± 0.10	1.30 ± 0.10	1.55 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.228

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE23T20B24B	SOT-23	3000PCS	7"



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Product Datasheet/Rev.201601B1

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