

FEATURES

- | 150W Peak Pulse Power per Line (tp=8/20μs)
- | Protects one unidirectional I/O line
- | Working voltages : 12 V
- | Low leakage current
- | Low clamping voltage

APPLICATIONS

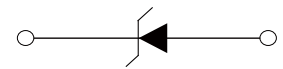
- | Cell Phone Handsets and Accessories
- | Microprocessor based equipment
- | Industrial Controls
- | Notebooks, Desktops, and Servers
- | Instrumentation
- | Set-Top Box
- | Display Ports



SOD-523



Marking



Schematic Symbol

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±30kV (air), ±22kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

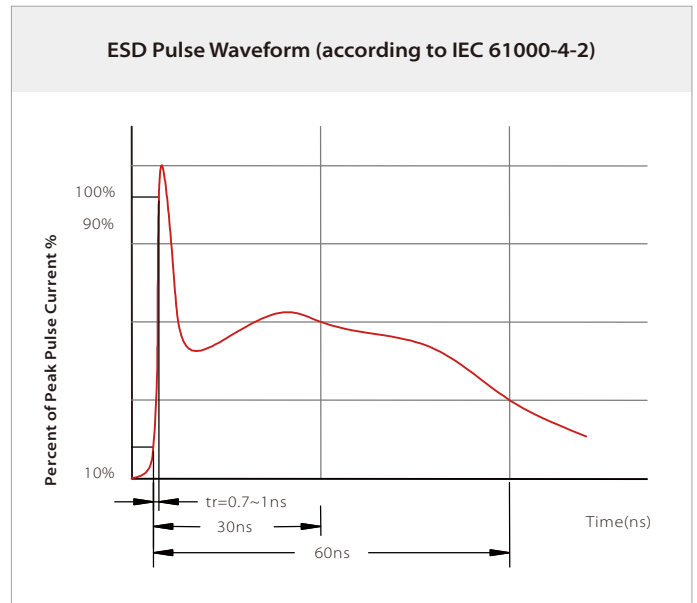
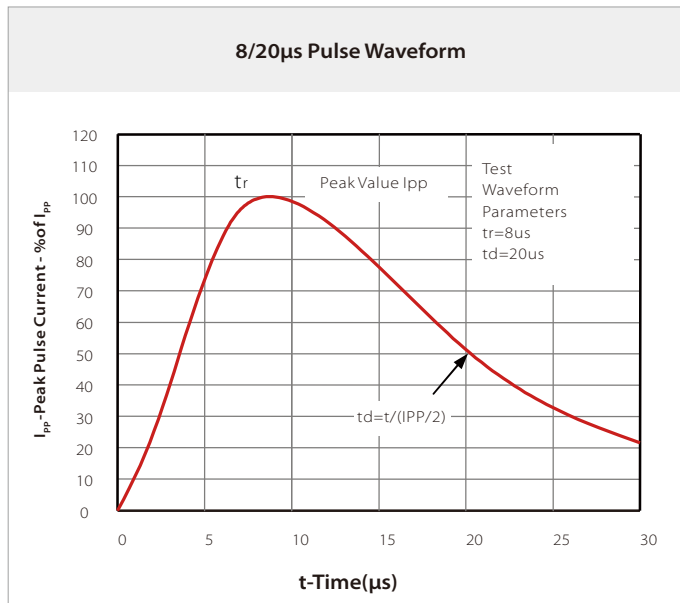
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (tp=8/20μs waveform)	150	Watts
T_J	Operating Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

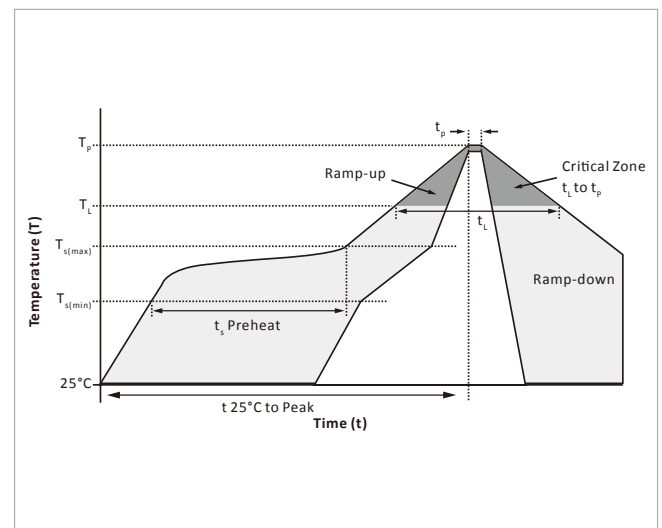
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				12	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1\text{mA}$	14.1			V
I_R	Reverse Leakage Current	$V_{RWM}=12\text{V}$			1	μA
V_C	Clamping Voltage (Tp=8/20us)	$I_{pp}=1\text{A}, tp=8/20\text{us}$			20	V
V_C	Clamping Voltage (Tp=8/20us)	$I_{pp}=4\text{A}, tp=8/20\text{us}$			26	V
I_{PP}	Peak Pulse Current (Tp=8/20us)	tp=8/20us			4	A
C_J	Off State Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$			45	pF

CHARACTERISTIC CURVES

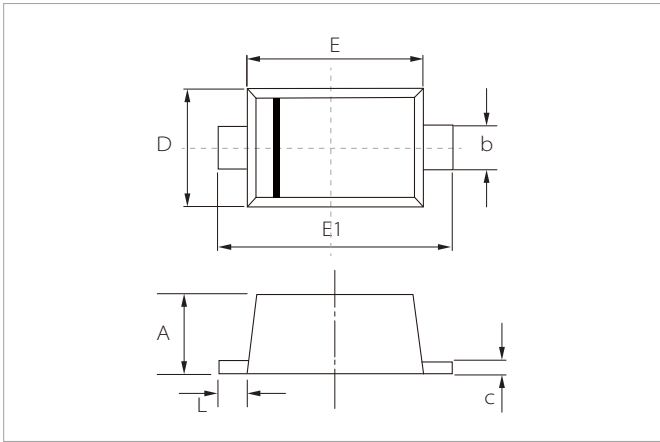


SOLDERING PARAMETERS

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

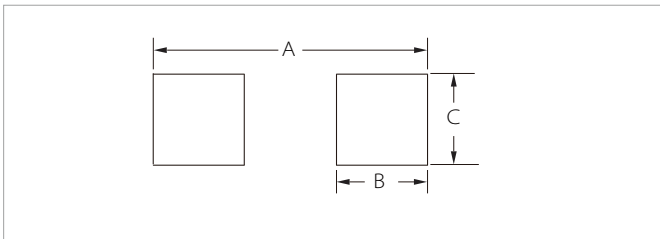


SOD-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.80	0.020	0.031
b	0.25	0.35	0.010	0.014
c	0.07	0.20	0.003	0.008
D	0.70	0.90	0.028	0.035
E	1.10	1.30	0.043	0.051
E1	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.		Min.	
A	2.00		0.0787	
B	0.60		0.0236	
C	0.70		0.0276	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE5D20U12A	SOD-523	3000PCS	7"

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