

FEATURES

- | 960Watts peak pulse power ($t_p = 8/20\mu s$)
- | Protects One Bidirectional I/O Line
- | Low clamping voltage
- | Meet AEC-Q101 Requirements

APPLICATIONS

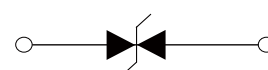
- | LAN/WAN equipment
- | Peripherals
- | ADSL interfaces
- | RS-232, RS-422, V.90 interfaces
- | Multi-protocol serial transceivers
- | High-speed data lines
- | FeliCa / RFID
- | Firewire



SOD-123



Marking



Schematic Symbol

IEC COMPATIBILITY

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

APPROVALS

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

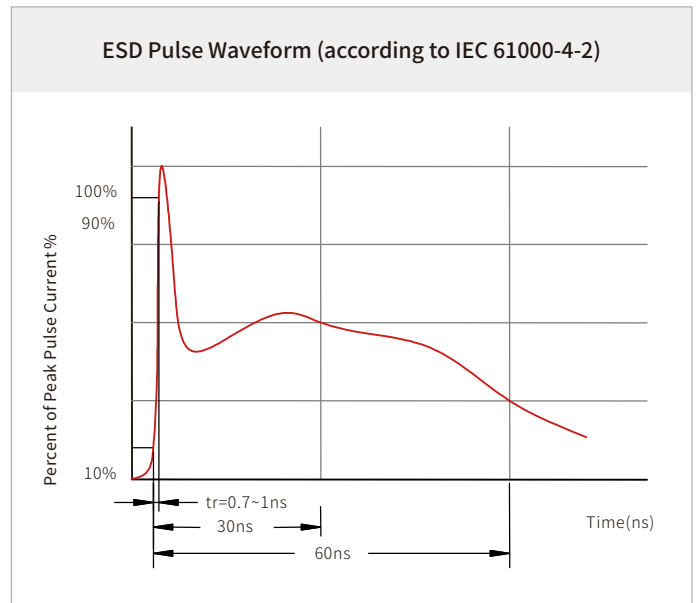
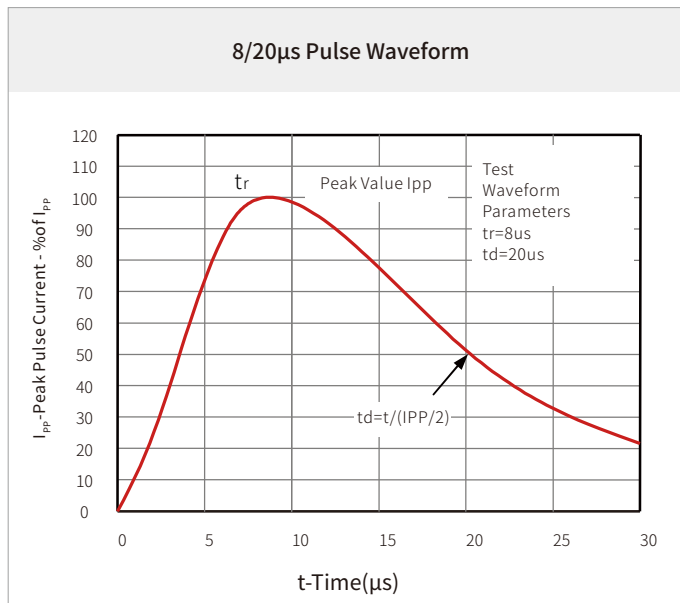
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	960	Watts
T_J	Operating Temperature Range	-55 to +125	$^{\circ}C$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

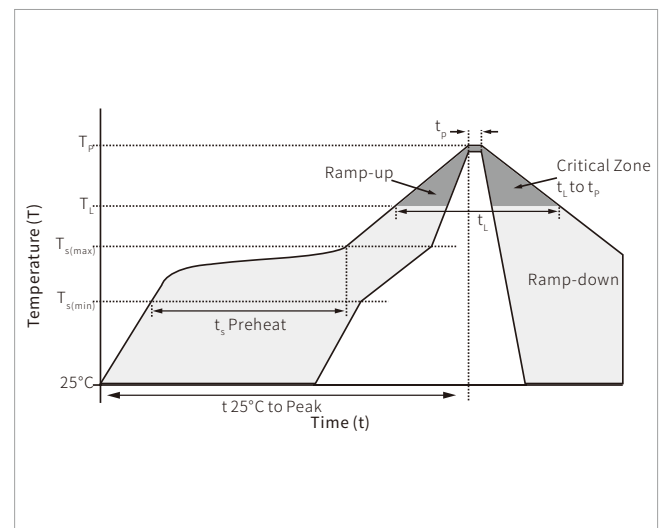
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	26.5			V
I_R	Reverse Leakage Current	$V_{RWM}=24V$			1	μA
V_C	Clamping Voltage	$I_{pp}=1A, t_p=8/20\mu s$			32	V
V_C	Clamping Voltage	$I_{pp}=10A, t_p=8/20\mu s$			37	V
V_C	Clamping Voltage	$I_{pp}=20A, t_p=8/20\mu s$			48	V
I_{pp}	Peak Pulse Current	$t_p=8/20\mu s$			20	A
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$		3.5		pF

CHARACTERISTIC CURVES

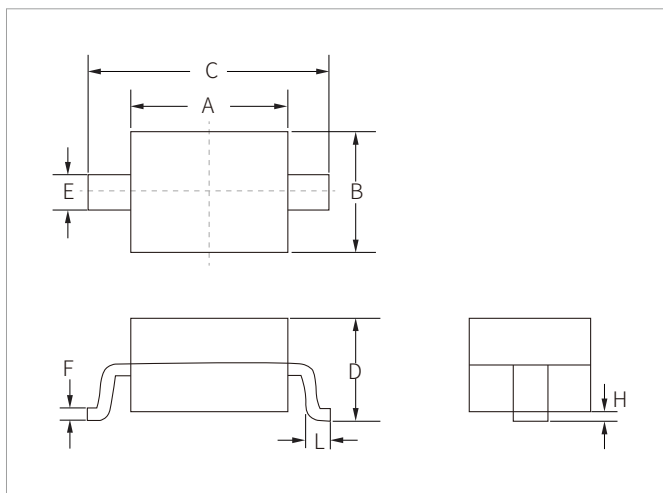


SOLDERING PARAMETERS

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

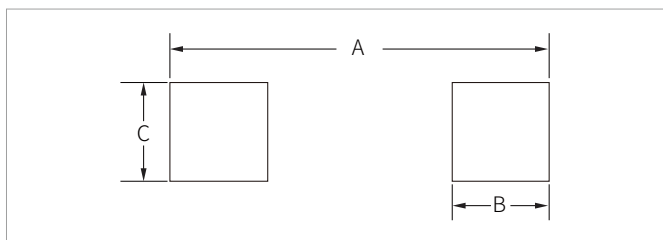


SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.08	0.15	0.003	0.006
H	0.00	0.10	0.000	0.004
L	0.25	0.45	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.30	0.157	0.169
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSE1D100B24A	SOD-123	3000PCS	7"

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