

## FEATURES

- | 350 Watts Peak Pulse Power per (tp=8/20μs)
- | Protects one I/O line (unidirectional)
- | Low clamping voltage
- | Working voltages: 3.3V to 36V
- | Low leakage current



## APPLICATIONS

- | Cell Phone Handsets and Accessories
- | Microprocessor based equipment
- | Personal Digital Assistants (PDA' s)
- | Notebooks, Desktops, and Servers
- | Portable Instrumentation
- | Networking and Telecom
- | Serial and Parallel Ports
- | Peripherals



## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±30KV (Contact) ±30KV (Air)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

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

## ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Contact)	±30	KV
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Air)	±30	KV
P <sub>pp</sub>	Peak Pulse Power (8/20μs)	350	W
T <sub>OPT</sub>	Operating Temperature	-55~+150	°C
T <sub>STG</sub>	Storage Temperature	-55~+150	°C
T <sub>L</sub>	Lead Soldering Temperature	260 (10 sec.)	°C

## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ )

Part Number	Marking	$V_{RWM}(V)$	$V_B(V)$	$I_T(mA)$	$V_C@1A(V)$	$V_C(V)$		$I_R(\mu A)$	$C_j(pF)$
		Max.	Min.		Max.	(@A)			
SD03	03W	3.3	4	1	6.5	14	20	40	450
SD05	05W	5	6	1	9.8	18	17	10	300
SD08	08W	8	8.5	1	10.5	24	15	1	240
SD12	12W	12	13.3	1	19	32	11	1	130
SD15	15W	15	16.7	1	24	38	10	1	120
SD18	18W	18	20.0	1	29	45	9	1	100
SD20	20W	20	22.3	1	35	50	8	1	90
SD24	24W	24	26.7	1	43	52	7	1	80
SD36	36W	36	40	1	60	75	5	1	60

## CHARACTERISTIC CURVES

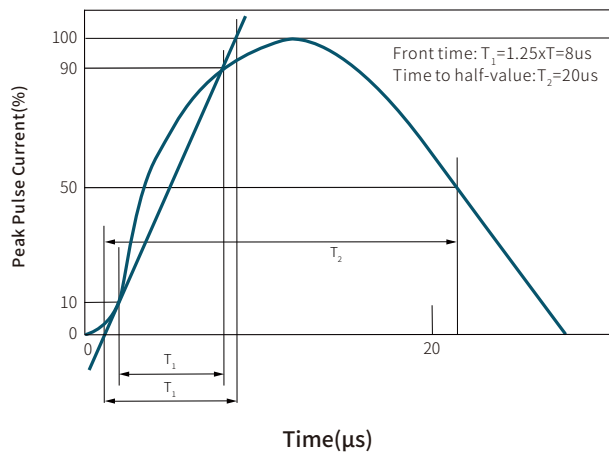
 Figure1: 8/20 $\mu s$  Waveform per IEC61000-4-5


Figure2: Contact Discharge Current Waveform per IEC 61000-4-2

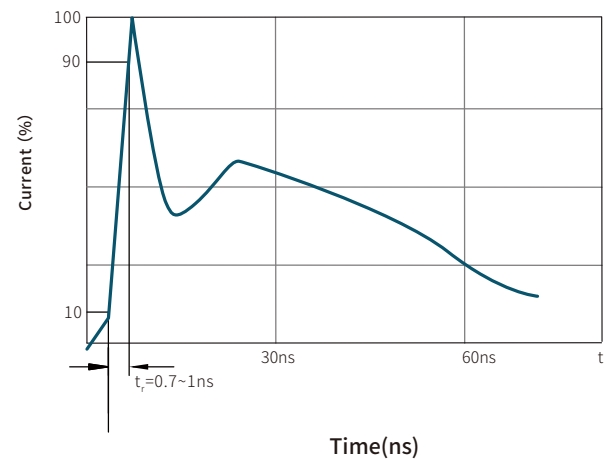


Figure3: Voltage vs Capacitance

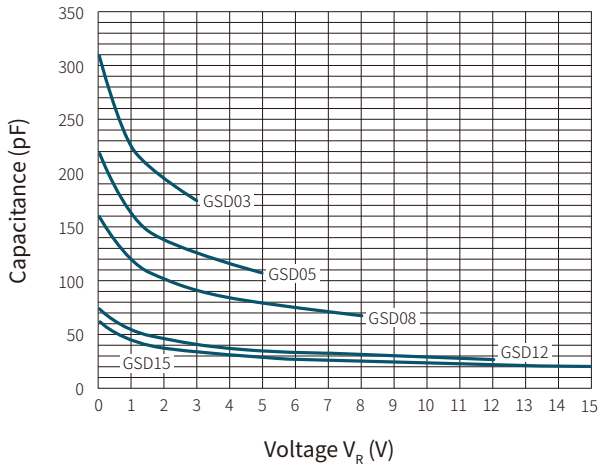


Figure4: Voltage vs Capacitance

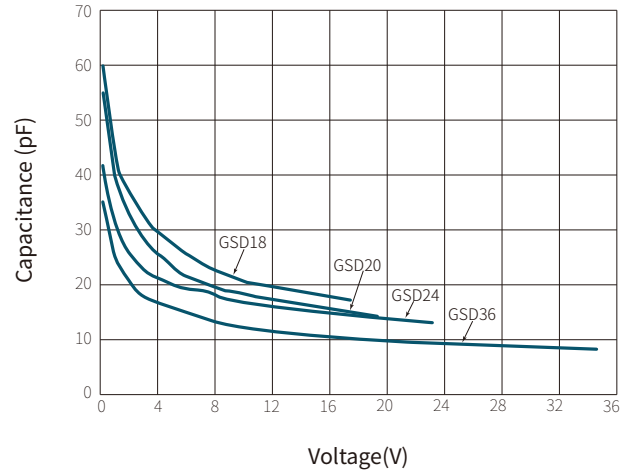


Figure5: Clamping Voltage vs Peak Pulse Current

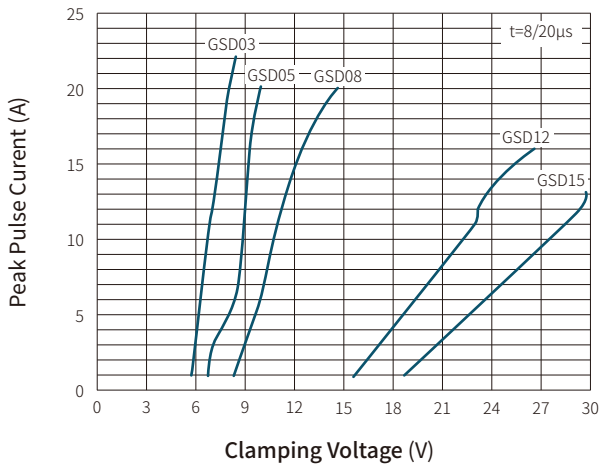
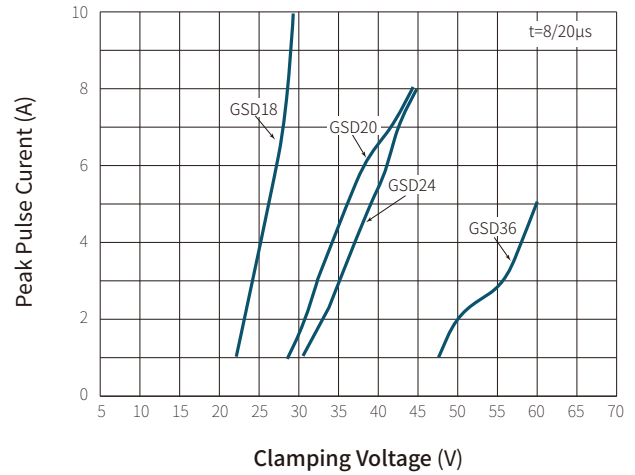
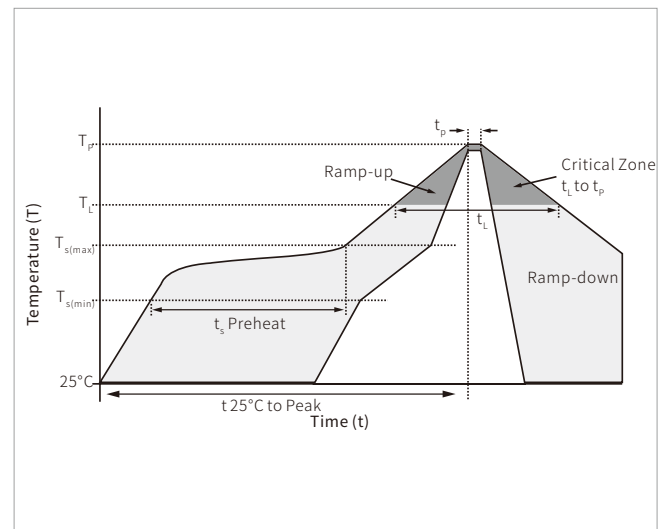


Figure6: Clamping Voltage vs Peak Pulse Current

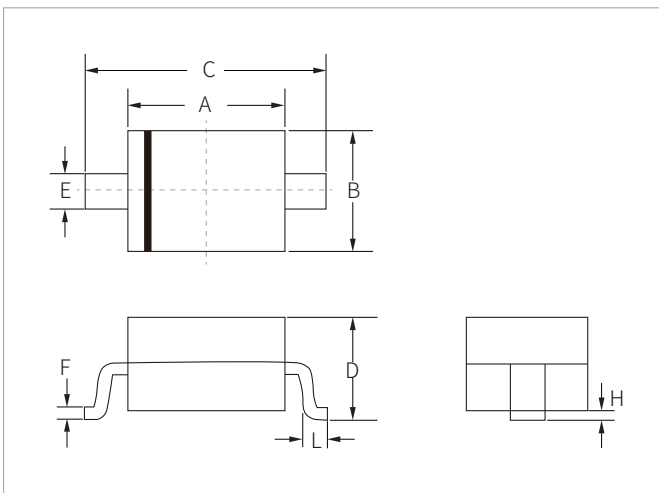


## SOLDERING PARAMETERS

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

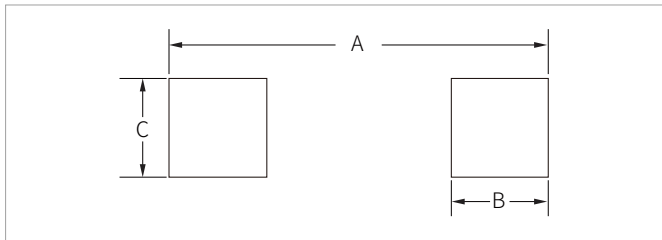


## SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.75	0.093	0.108
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	0.40	0.008	0.016

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SD03-SD36	SOD-323	3000PCS	7"

To find your local partner within Semiwell' s website : [www.semiwell.com.cn](http://www.semiwell.com.cn)  
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