

Pb Free Plating Product

SD05C/SD12C/SD15C/SD24C



350W Discrete Bi-directional Surface Mount TVS Diode for ESD

FEATURES

- Surface Mounted Device
- Protects one I/O or power line
- Moisture sensitivity level (MSL): 1
- Working voltage:5V,12V,15V,24V

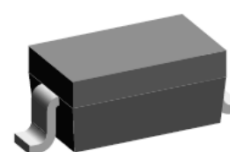
APPLICATION

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Portable Instrumentation

MECHANICAL DATA

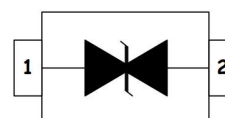
- Case: Bend lead SOD-323 package
- High temperature soldering guaranteed: 260°C/10s
- Weight: 4.5mg (approximately)
- Part no marking with code

SOD-323 Bend Lead



SOD-323(SMD)

PIN Configuration



ELECTRICAL SYMBOL

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	Symbol	Limits	Unit
Peak pulse power($t_p=8/20\mu s$)	P_{pk}	350	W
Peak pulse current($t_p=8/20\mu s$)	I_{PP}	24	A
ESD voltage(HBM waveform per IEC 6100-4-2)	V_{PP}	30	kV
Lead soldering temperature	T_L	260 (10 sec.)	°C
Operating temperature	T_j	-55 to+125	°C
Storage temperature	T_{STG}	-55 to+150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

SD05C TVS for 5V Lines						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			5	V	
Reverse breakdown voltage	$V_{(BR)R}$	6			V	$I_R=1mA$
Clamping voltage	V_C			9.8 14.5	V	$I_{PP}=5A, t_p=8/20\mu s$ $I_{PP}=24A, t_p=8/20\mu s$
Reverse leakage current	I_R			10	μA	$V_{RWM}=5V$
Junction Capacitance	C_J			200	pF	$V_R=0V, f=1MHz$

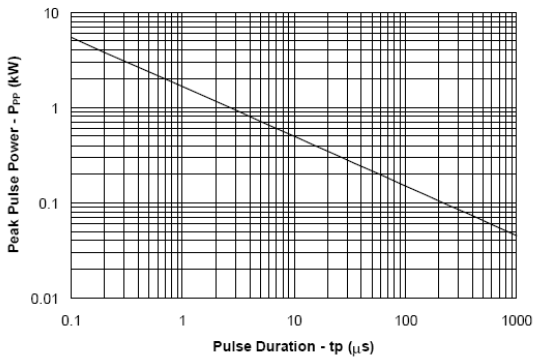
SD12C TVS for 12V Lines						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			12	V	
Reverse breakdown voltage	$V_{(BR)R}$	13.3			V	$I_R=1mA$
Clamping voltage	V_C			19 24	V	$I_{PP}=5A, t_p=8/20\mu s$ $I_{PP}=15A, t_p=8/20\mu s$
Reverse leakage current	I_R			1	μA	$V_{RWM}=12V$
Junction Capacitance	C_J			100	pF	$V_R=0V, f=1MHz$

SD15C TVS for 15V Lines						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			15	V	
Reverse breakdown voltage	$V_{(BR)R}$	16.7			V	$I_R=1mA$
Clamping voltage	V_C			24 29	V	$I_{PP}=5A, t_p=8/20\mu s$ $I_{PP}=12A, t_p=8/20\mu s$
Reverse leakage current	I_R			1	μA	$V_{RWM}=15V$
Junction Capacitance	C_J			75	pF	$V_R=0V, f=1MHz$

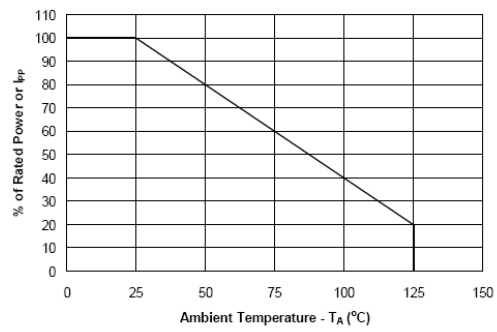
SD24C TVS for 24V Lines						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			24	V	
Reverse breakdown voltage	$V_{(BR)R}$	26.7			V	$I_R=1mA$
Clamping voltage	V_C			40 44	V	$I_{PP}=5A, t_p=8/20\mu s$ $I_{PP}=8A, t_p=8/20\mu s$
Reverse leakage current	I_R			1	μA	$V_{RWM}=24V$
Junction Capacitance	C_J			50	pF	$V_R=0V, f=1MHz$

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

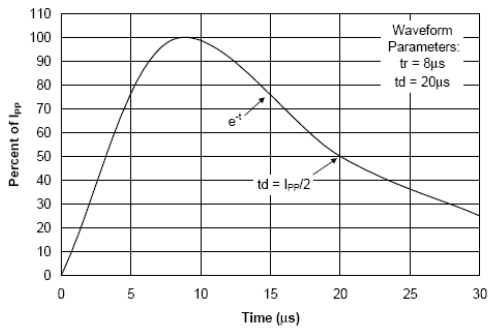
Non-Repetitive Peak Pulse Power vs. Pulse Time



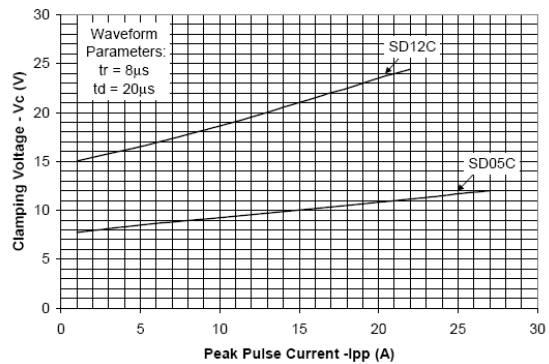
Power Derating Curve



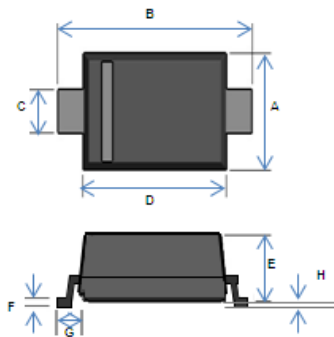
Pulse Waveform



Clamping Voltage vs. Peak Pulse Current

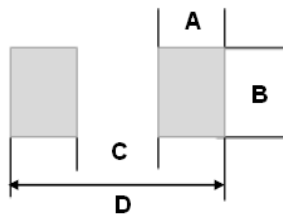


PACKAGE OUTLINE DIMENSIONS
SOD-323 BEND LEAD



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.40	0.045	0.055
B	2.30	2.70	0.091	0.106
C	0.25	0.45	0.010	0.018
D	1.60	1.80	0.063	0.071
E	0.80	1.00	0.031	0.039
F	0.05	0.17	0.002	0.007
G	0.475 REF		0.19 REF	
H	-	0.10	-	0.004

SUGGESTED PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
A	0.63	0.025
B	0.83	0.033
C	1.60	0.063
D	2.86	0.113