

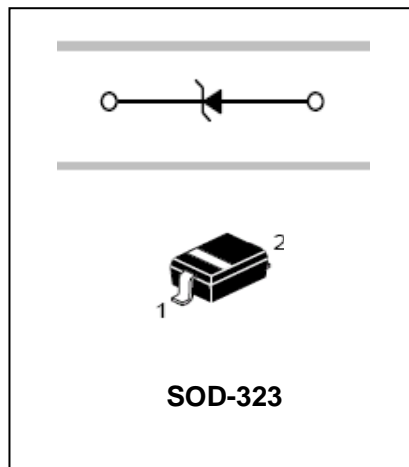


## Single Line TVS Diode

## SD05/SD12

### FEATURES

- Suitable replacement for MLV'S ESD protection
- Low leakage current
- Low clamping voltage
- Working voltage:5V~12V



### APPLICATIONS

- Single line TVS diode

### ORDERING INFORMATION

Type No.	Marking	Package Code
SD05	5U	SOD-323
SD12	6U	SOD-323

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	Symbol	Limits	Unit
Peak pulse power dissipation( $t_p=8/20\mu s$ )	$P_{pk}$	350	W
Peak pulse current( $t_p=8/20\mu s$ )	$I_{pp}$	24	A
ESD Voltage (human Waveform per IEC 1000-4-2)	$V_{PP}$	30	kV
Lead soldering temperature	$T_L$	260(10 sec.)	°C
Junction temperature	$T_j$	-55 to+125	°C
Storage temperature	$T_{STG}$	-55 to+150	°C



# Single Line TVS Diode

# SD05/SD12

## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

### SD05 TVS for 5V Lines

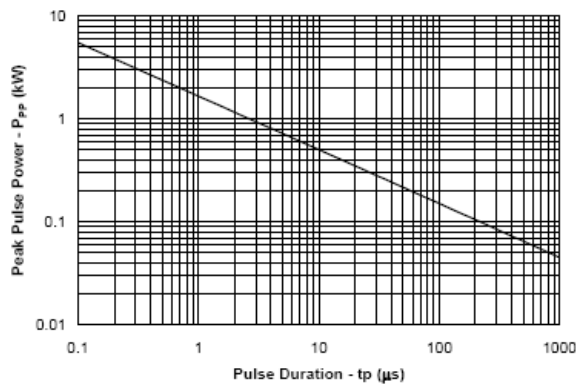
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse stand-off voltage	$V_{RWM}$				5	V
Reverse breakdown voltage	$V_{BR}$	$I_t=1mA$	6			V
Reverse leakage current	$I_R$	$V_{RWM}=5V, T=25^\circ C$			10	$\mu A$
Clamping voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$			9.8	V
Clamping voltage	$V_C$	$I_{PP}=24A, t_p=8/20\mu s$			14.5	V
Junction capacitance	$C_j$	$V_R=0V, f=1MHz$			350	pF

### SD12 TVS for 12V Lines

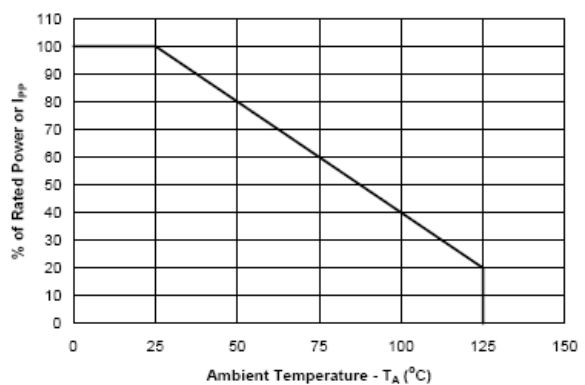
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse stand-off voltage	$V_{RWM}$				12	V
Reverse breakdown voltage	$V_{BR}$	$I_t=1mA$	13.3			V
Reverse leakage current	$I_R$	$V_{RWM}=12V, T=25^\circ C$			1	$\mu A$
Clamping voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$			19	V
Clamping voltage	$V_C$	$I_{PP}=15A, t_p=8/20\mu s$			23	V
Junction capacitance	$C_j$	$V_R=0V, f=1MHz$			150	pF

## TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

**Non-Repetitive Peak Pulse Power vs. Pulse Time**



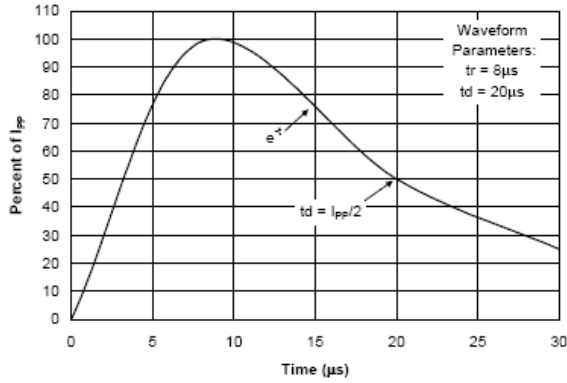
**Power Derating Curve**



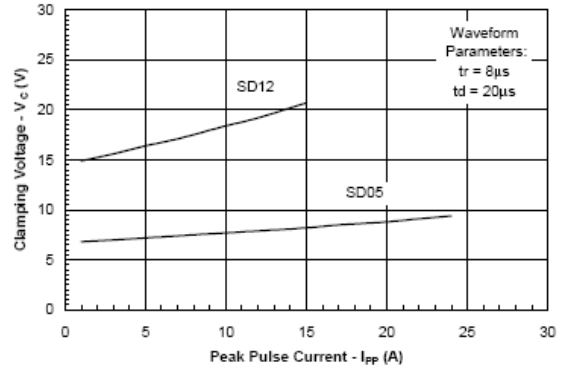
Single Line TVS Diode

**SD05/SD12**

Pulse Waveform



Typical Clamping Characteristic



PACKAGE OUTLINE

Plastic surface mounted package

SOD-323

SOD-323		
Dim	Min	Max
A	1.60	1.80
B	1.20	1.40
C	0.9 Max	
D	0.30 Typical	
E	0.22	0.42
H	0.02	0.1
J	0.1 Typical	
K	2.55	2.75
All Dimensions in mm		



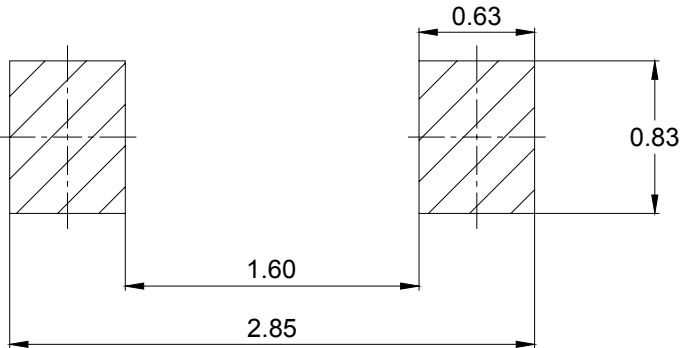
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Single Line TVS Diode

**SD05/SD12**

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SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
SD05/SD12	SOD-323	3000/Tape&Reel