

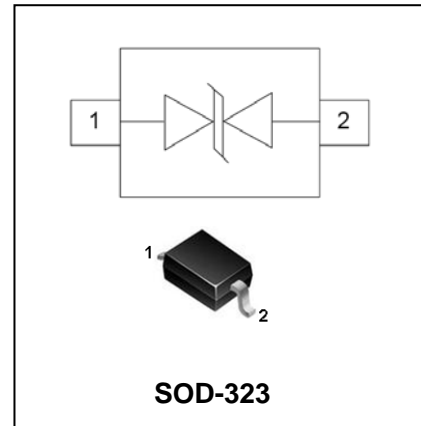


Single Line TVS Diode for ESD

SD05C-24C

FEATURES

- 350 Watts peak pulse power ($t_p=8/20 \mu s$)
- Protects one I/O or power line
- Low clamping voltage
- Working voltage: 5V, 12V, 15V, 24V
- Low leakage current
- Solid-state silicon avalanche technology



APPLICATIONS

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

ORDERING INFORMATION

Type No.	Marking	Package Code
SD05C	05C	SOD-323
SD12C	6/6	SOD-323
SD15C	7/7	SOD-323
SD24C	8/8	SOD-323

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ 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.)	$^\circ\text{C}$
Operating temperature	T_j	-55 to+125	$^\circ\text{C}$
Storage temperature	T_{STG}	-55 to+150	$^\circ\text{C}$



Single Line TVS Diode for ESD

SD05C-24C

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	$V_R=0V, f=1MHz$



Single Line TVS Diode for ESD

SD05C-24C

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	$V_R=0V, f=1MHz$

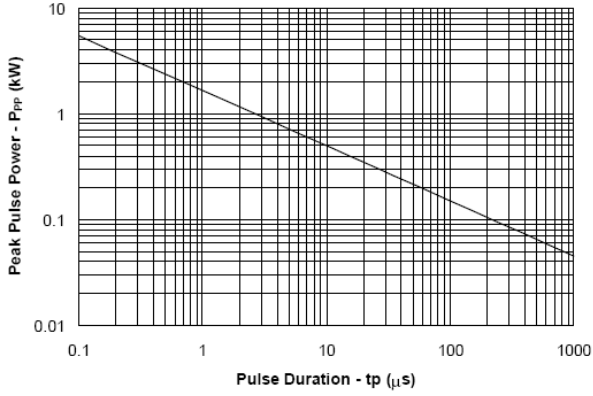


Single Line TVS Diode for ESD

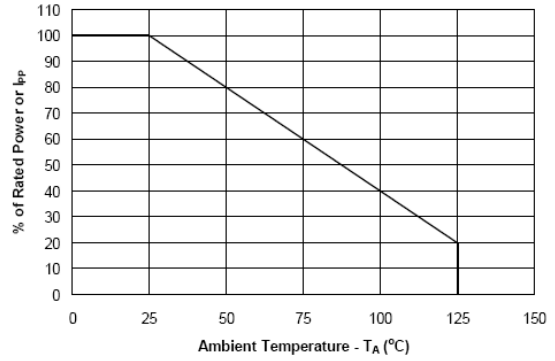
SD05C-24C

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

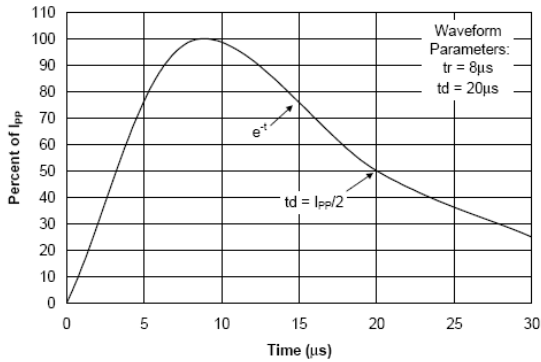
Non-Repetitive Peak Pulse Power vs. Pulse Time



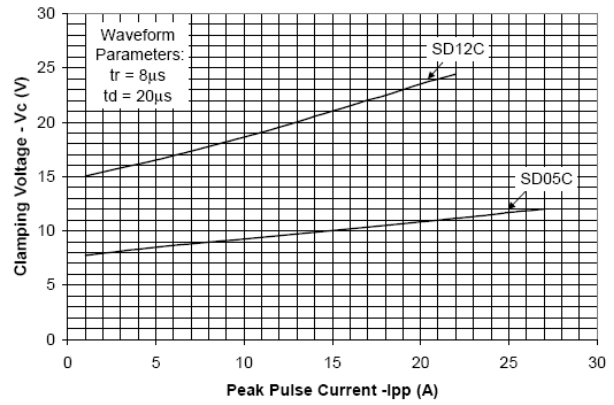
Power Derating Curve



Pulse Waveform



Clamping Voltage vs. Peak Pulse Current





Single Line TVS Diode for ESD

SD05C-24C

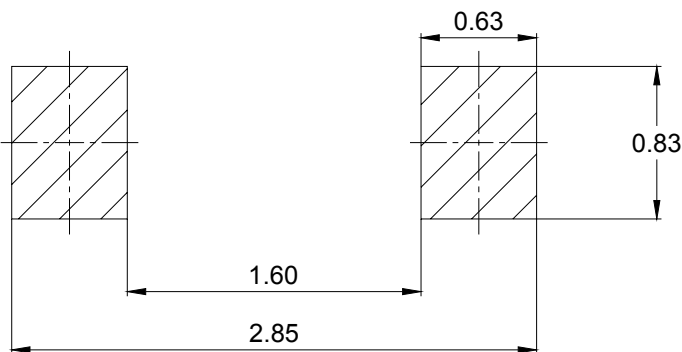
PACKAGE OUTLINE

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		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
SD05C-SD24C	SOD-323	3000/Tape&Reel