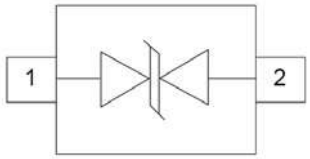
Single Line TVS Diode for ESD

Features:

- 350 Watts peak pulse power (tp=8/20 μ 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



SOD-323

Applications:

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

ORDERING INFORMATION

Type No.	Marking	Package Code
KWSD05C	5B	SOD-323
KWSD12C	AB	SOD-323
KWSD15C	BB	SOD-323
KWSD24C	CB	SOD-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Limits	Unit
Peak pulse power(t_p=8/20μs)	P_{pk}	350	W
Peak pulse current(t_p=8/20μs)	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.)	℃
Operating temperature	T_j	-55 to+125	℃
Storage temperature	T_{STG}	-55 to+150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

KWSD05C 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=8/20μs I_{PP}=24A,t_p=8/20μs
Reverse leakage current	I_R			10	μA	V_{RWM}=5V
Junction Capacitance	C_J			200	pF	V_R=0V,f=1MHz

KWSD12C TVS for 5V 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=8/20μs I_{PP}=15A,t_p=8/20μs
Reverse leakage current	I_R			1	μA	V_{RWM}=12V
Junction Capacitance	C_J			100	pF	V_R=0V,f=1MHz

KWSD15C TVS for 5V Lines

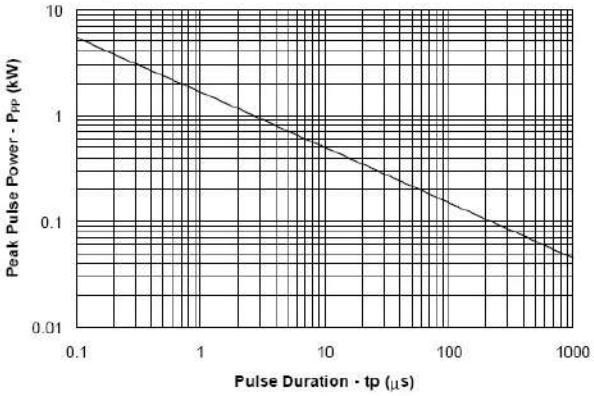
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			15	V	
Reverse breakdown voltage	$V_{(BR)R}$	16.7			V	I_R=1mA
Clamping voltage	V_C			24 29	V	I_{PP}=5A,t_p=8/20μs I_{PP}=12A,t_p=8/20μs
Reverse leakage current	I_R			1	μA	V_{RWM}=15V
Junction Capacitance	C_J			75	pF	V_R=0V,f=1MHz

KWSD24C TVS for 5V Lines

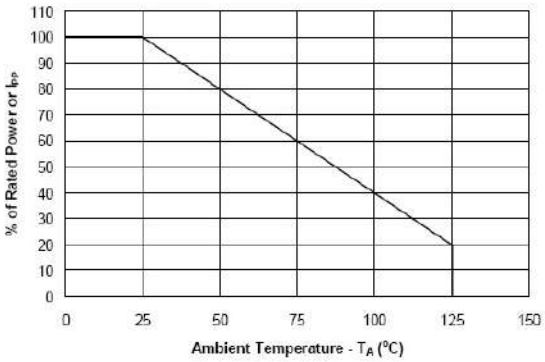
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse stand-off voltage	V_{RWM}			24	V	
Reverse breakdown voltage	$V_{(BR)R}$	26.7			V	I_R=1mA
Clamping voltage	V_C			40 44	V	I_{PP}=5A,t_p=8/20μs I_{PP}=8A,t_p=8/20μs
Reverse leakage current	I_R			1	μA	V_{RWM}=24V
Junction Capacitance	C_J			50	pF	V_R=0V,f=1MHz

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

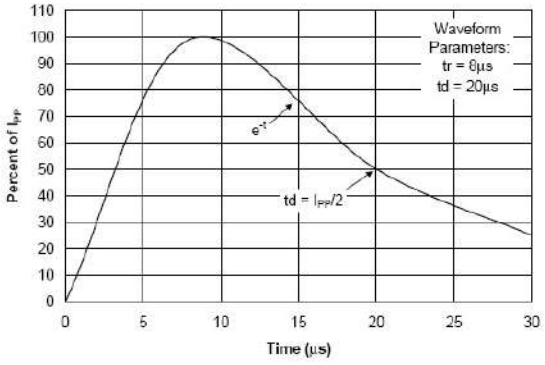
Non-Repetitive Peak Pulse Power vs. Pulse Time



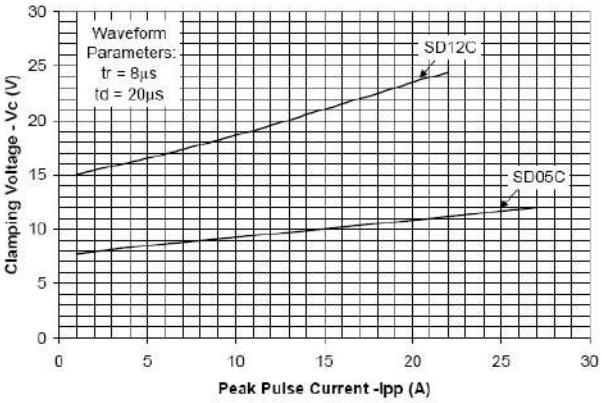
Power Derating Curve



Pulse Waveform

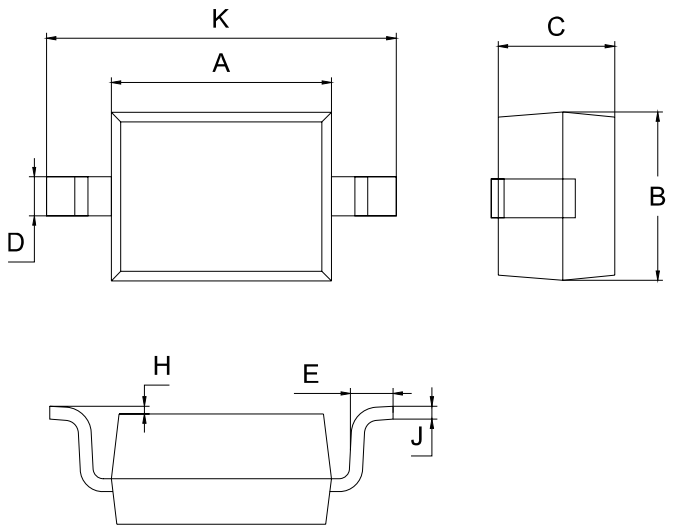


Clamping Voltage vs. Peak Pulse Current



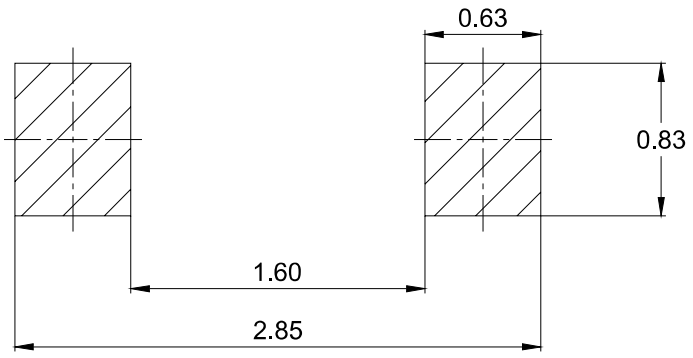
PACKAGE OUTLINE

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
KWSD05C-KWSD24C	SOD-323	3000/Tape&Reel