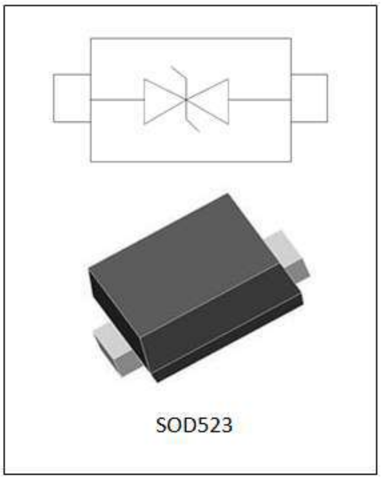
Surface Mount Transient Voltage Suppressor

TVS Diode

Features

- 150 Watts peak pulse power (tp = 8/20μs)
- Transient protection for high speed data lines to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
- Protects One Power or I/O Port
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology



Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Portable Instrumentation
- Personal Digital Assistant (PDA)

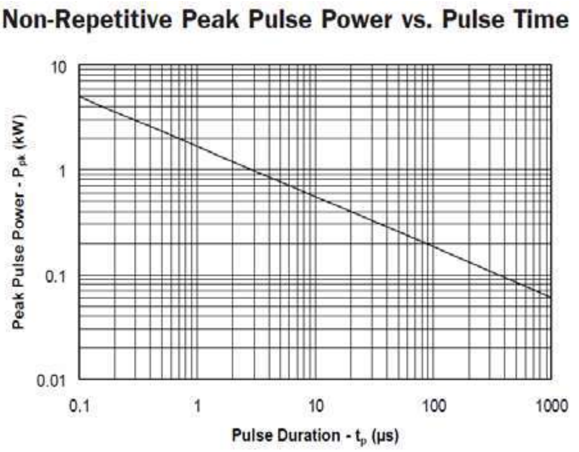
Maximum Rating @ Ta =25℃ unless otherwise specified

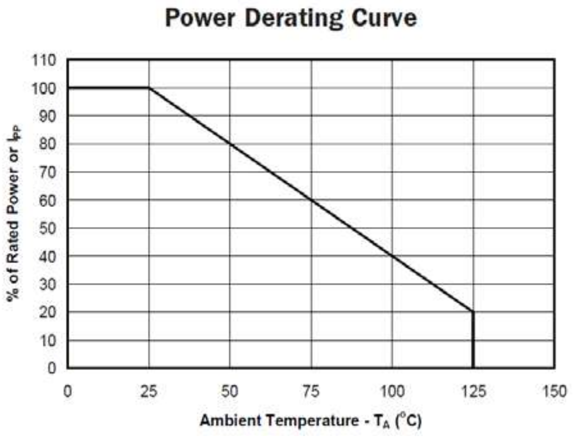
Symbol	Parameter	Ratings	Units
P_{PK}	Peak Pulse Power (tp = 8/20μs)	150	Watts
T_L	Lead Soldering Temperature	260(10sec.)	℃
T_J	Operating Temperature	-55 to +125	℃
T_{STG}	Storage Temperature	-55 to +150	℃

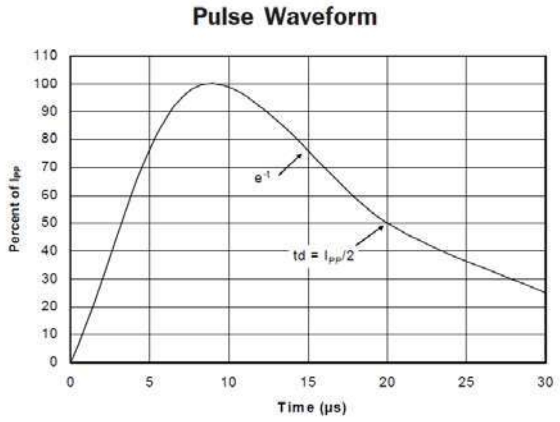
Electrical Characteristics@ Ta =25℃ unless otherwise

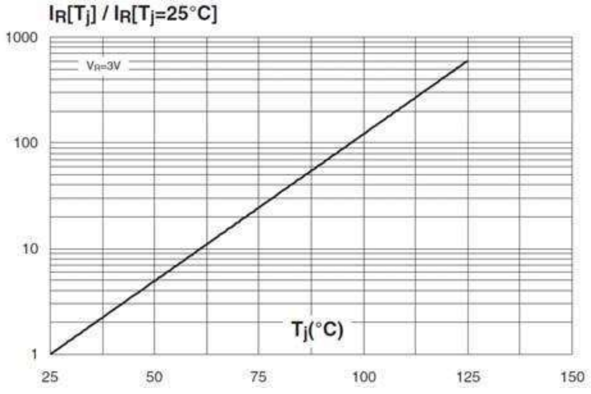
Parameter	Marking	V_{RWM} @I_R		V_{BR}@ImA	V_C@1A	V_C@I_{PP}		C_J
		V	μA	V	V	V	A	pF
			MAX	MIN	MAX	MAX		MAX
KWESD5Z5.0C		5	1	6	9.8	15	8	30

Typical Characteristics@ Ta=25℃unless otherwise specified


Non-Repetitive Peak Pulse Power vs. Pulse Time

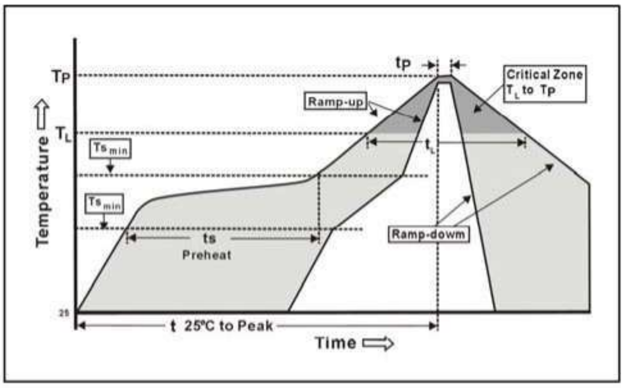

Power Derating Curve


Pulse Waveform


$I_R[T_j] / I_R[T_j=25°C]$

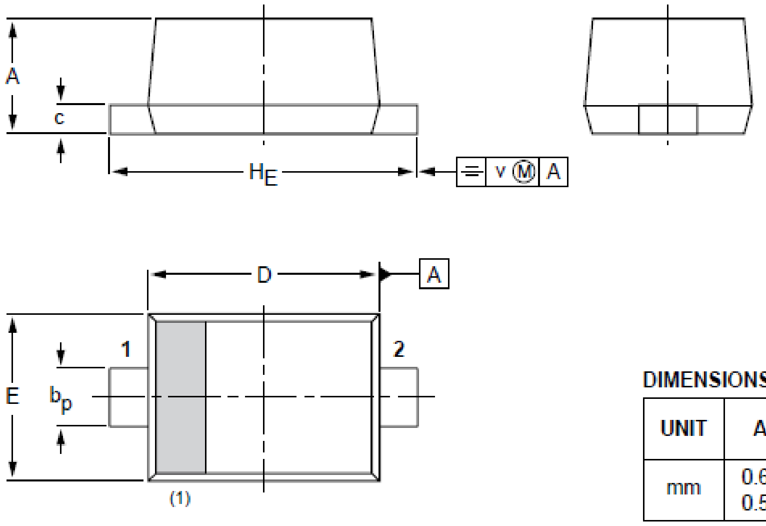
Soldering Parameters

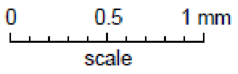
Reflow Condition		Fb – Free assembly
Pre Heat	- Temperature Min ($T_{s(Min)}$)	150°C
	- Temperature Max ($T_{s(Max)}$)	200°C
	- Time (Min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second Max
$T_{S(Max)}$ to T_L - Ramp-up Rate		3°C/second Max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		$250^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-dowm Rate		6°C/second Max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C



Package Outline

Plastic surface mounted package SOD523

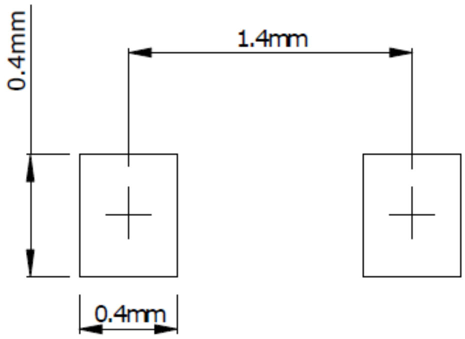




DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1

Soldering Footprint



Package And Marking Information

Device	Package	Shipping	Reel Size
KWESD5Z5.0C	SOD523	3000/Reel	7 inch