

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

The KS05ULA5 is a transient voltage suppressors (TVS) which provide a very high level protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD). It is designed to replace multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

The KS05ULA5 was past ESD transient voltage up to $\pm 8\text{kV}$ (contact) according to IEC61000-4-2 and withstand peak current up to 2.5A for 8/20 μs pulse according to IEC61000-4-5.

The KS05ULA5 is available in DFN2510 package. Standard products are Pb-free and Halogen-free.

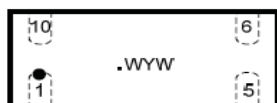
APPLICATIONS

- TVs, monitors , audio
- Portable devices
- Notebooks, mother boards, graphic cards and ports.
- Set-top box and game consoles.

FEATURES

- Small Body Outline Dimensions:
2.5 mm x 1.0 mm
- Low Body Height: 0.55mm 22123200
- Stand-off Voltage: 5 V
- ESD Rating of Class 3 (> 16 kV)
per Human Body Model

MARKING

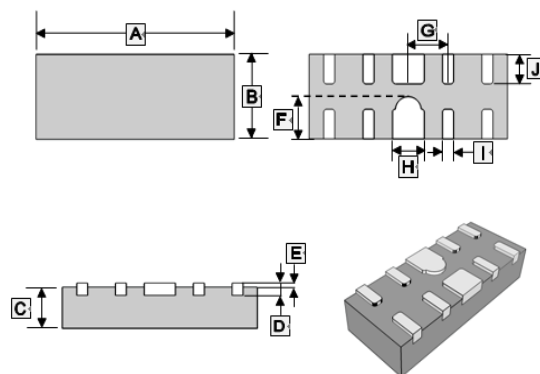


.W = Device code
Y = Year code
W = Week code
Marking

PACKAGE INFORMATION

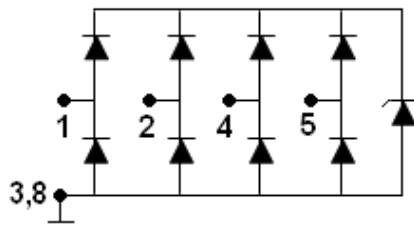
Package	MPQ	Leader Size
DFN2510	3K	7 inch

DFN2510

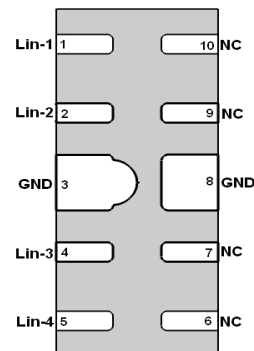


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.424	2.576	F	0.410	0.610
B	0.924	1.076	G	0.500 TYP.	
C	0.550 TYP.		H	0.300	0.500
D	0.150 REF.		I	0.150	0.250
E	0.000	0.050	J	0.304	0.456

Circuit Diagram



(Top view)



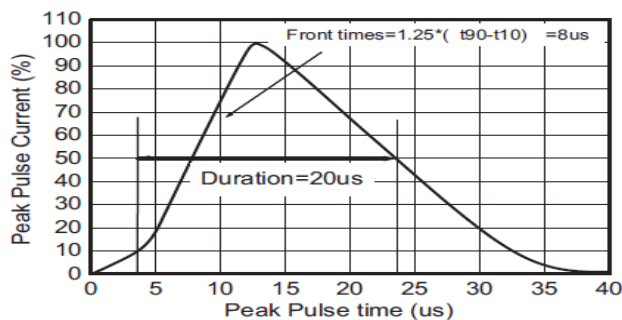
ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Rating		Symbol	Value	Unit
IEC 61000-4-2 (ESD)	Air contact	V_{ESD}	± 15	kV
	Contact discharge		± 8	
Peak pulse power ($t_p=8/20\mu\text{s}$)		P_{PK}	30	W
Peak pulse current ($t_p=8/20\mu\text{s}$)		I_{PP}	2.5	A
Operation & Storage temperature range		T_J, T_{STG}	125, -55 ~ +150	$^\circ\text{C}$
Lead temperature		T_L	260	$^\circ\text{C}$

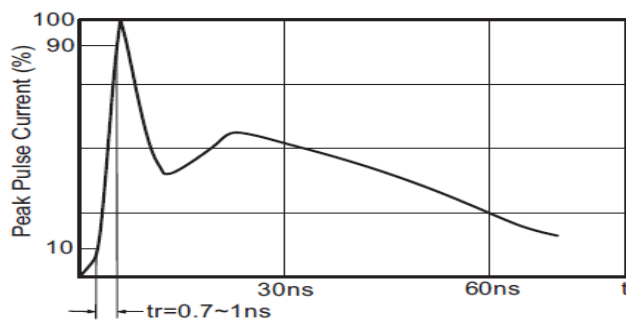
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}		-	-	5	V
Reverse Leakage Current	I_{R}	$V_{\text{RWM}}=5\text{V}$	-	-	1	μA
Reverse Breakdown Voltage	V_{BR}	$I_{\text{T}}=1\text{mA}$	6.5	8	10	V
Forward Voltage	V_{F}	$I_{\text{T}}=10\text{mA}$	0.4	0.8	1.4	V
Clamping Voltage	V_{Clamp}	$I_{\text{PP}}=1\text{A}, t_p=8/20\mu\text{s}$	-	-	10	V
		$I_{\text{PP}}=2.5\text{A}, t_p=8/20\mu\text{s}$	-	-	12	
Junction capacitance	C_J	I/O-to-GND $V_{\text{R}}=0, f=1\text{MHz}$	-	0.7	0.9	pF
		I/O-to-I/O $V_{\text{R}}=0, f=1\text{MHz}$	-	0.35	0.5	pF

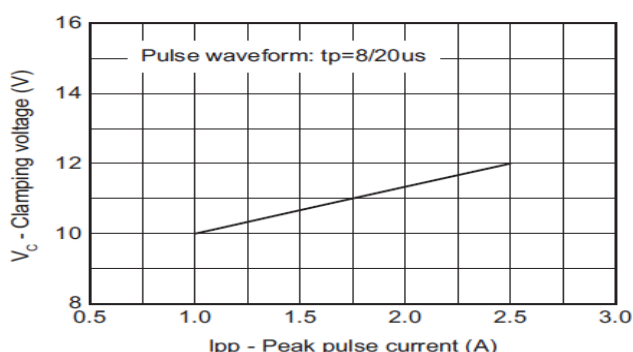
RATINGS AND CHARACTERISTICS CURVES



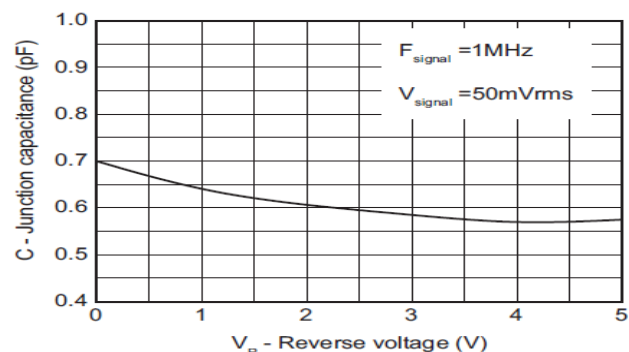
8/20us waveform



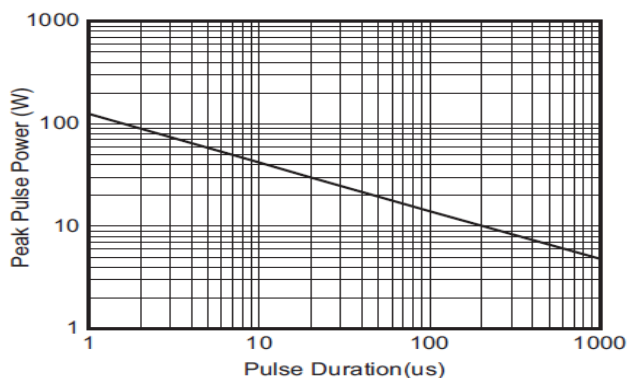
IEC61000-4-2 waveform



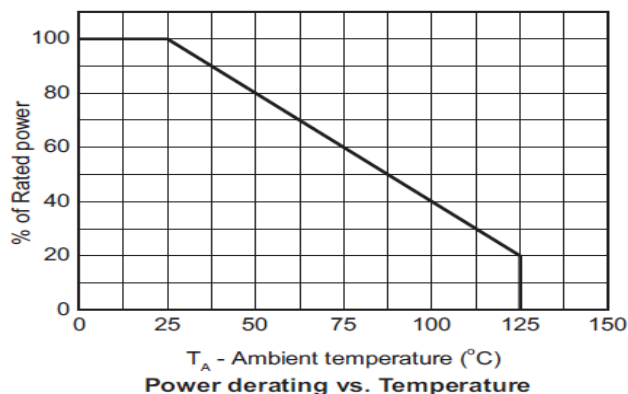
Clamping voltage vs. Peak pulse current



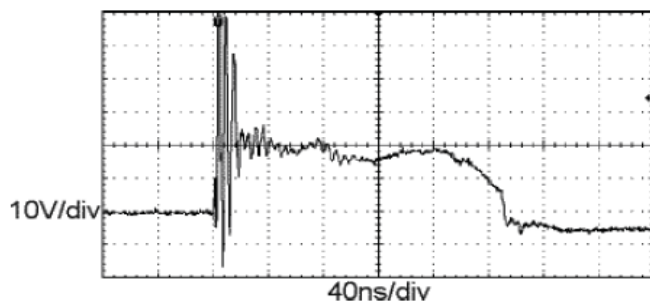
Capacitance vs. Reverse voltage



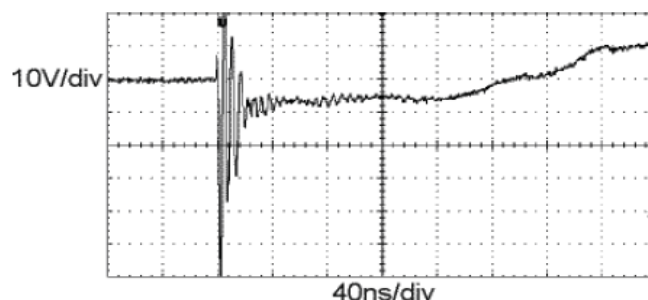
Non-Repetitive Peak Pulse Power vs. Pulse time



Power derating vs. Temperature



ESD clamping voltage
(IEC61000-4-2 +8KV contact)



ESD clamping voltage
(IEC61000-4-2 -8KV contact)