

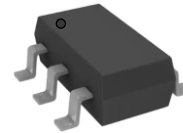
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

FEATURES

KS05VL4-C is an ultra-low capacitance TVS designed to protection for high-speed data interfaces. With typical capacitance of 0.2pF (I/O to I/O) only, it is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD) Level 4, IEC 61000-4-4 (EFT), very fast charged device model (CDM) ESD and cable discharge event (CDE) etc.

The combined features of ultra-low capacitance, small size and high ESD robustness make it ideal for high-speed data ports and high-frequency lines applications. The low clamping voltage of the KS05VL4-C guarantees a minimum stress on the protected IC.

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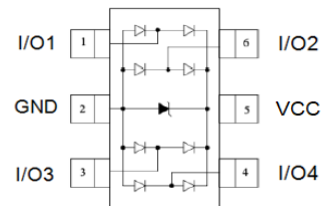
FEATURES

- Transient Protection for High-Speed Data Lines
- Package Optimized for High-Speed Lines
- Protects four Data Lines and One V_{CC} Line
- Low Capacitance and Clamping Voltage
- Low Leakage Current
- Flammability Rating: UL 94V-0

MARKING

Y B05

V05



PACKAGE INFORMATION

Package	MPQ	Leader Size
TSOP-6	3K	7 inch

ORDER INFORMATION

Part Number	Type
KS05VL4-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
IEC 61000-4-2 ESD Voltage	Air Model	±25	KV
	Contact Model	±20	
Peak Pulse Power @tp=8/20µs	P _{PP}	60	W
Peak Pulse Current @tp=8/20µs	I _{PP}	4	A
Operating Junction Temperature Range	T _J	-55~125	°C
Storage Temperature Range	T _{STG}	-55~150	

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Working Voltage	V_{RWM}	-	-	5	V	I/O to GND
Reverse Breakdown Voltage	V_{BR}	6	-	9	V	$I_T=1\text{mA}$, I/O to GND
Reverse Leakage Current	I_R	-	-	1	μA	$V_{RWM}=5\text{V}$, I/O to GND
Surge Clamping Voltage @ $t_p=8/20\mu\text{s}$	V_C	-	-	10	V	$I_{PP}=1\text{A}$, I/O to GND
		-	-	15		$I_{PP}=4\text{A}$, I/O to GND
		-	-	15		$I_{PP}=8\text{A}$, V_{CC} to GND
Junction Capacitance @ $V_R=0\text{V}$, $f=1\text{MHz}$	C_J	-	0.2	0.3	pF	Between I/O Pins
		-	0.45	0.5		Between I/O and GND
		-	0.8	-		Between V_{CC} and GND

RATINGS AND CHARACTERISTICS CURVES

Fig 1 Power Derating Curve

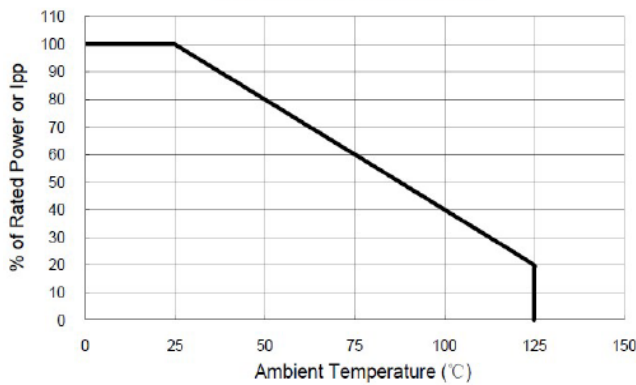


Fig 2 Clamping Voltage vs Peak Pulse Current

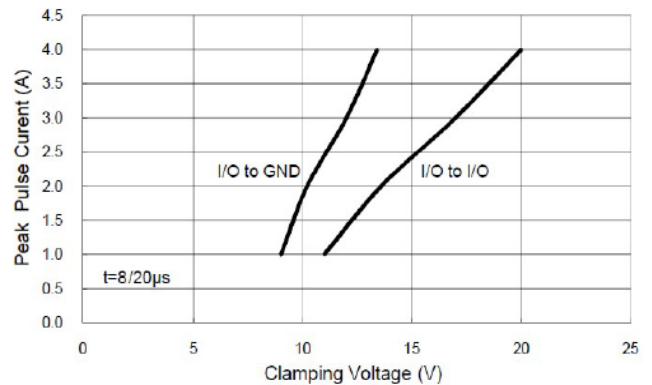


Fig 3 Voltage Sweeping of I/O to I/O

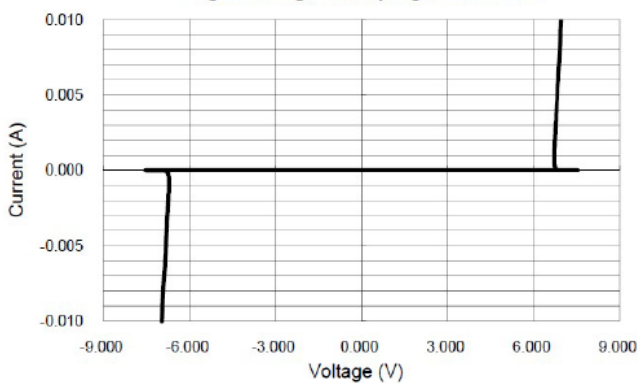


Fig 4 Voltage vs Capacitance

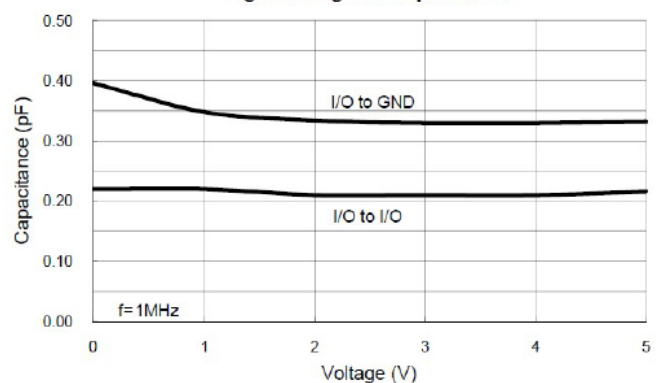


Fig 5 ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)

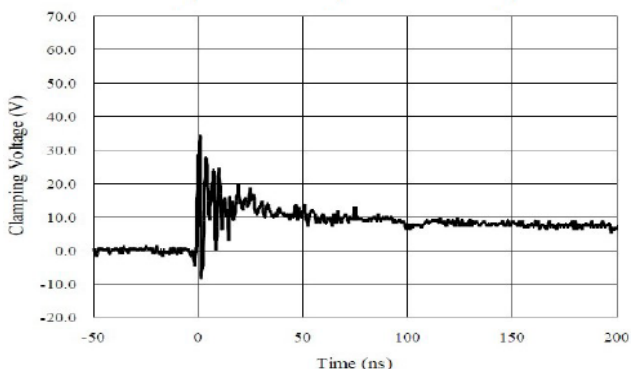
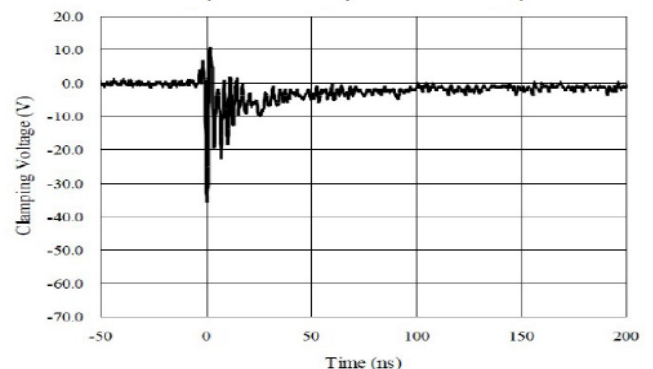
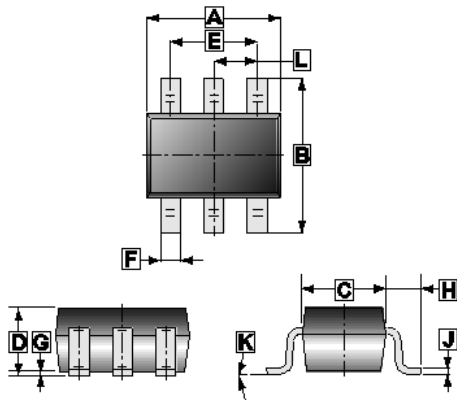


Fig 6 ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)



PACKAGE OUTLINE DIMENSIONS

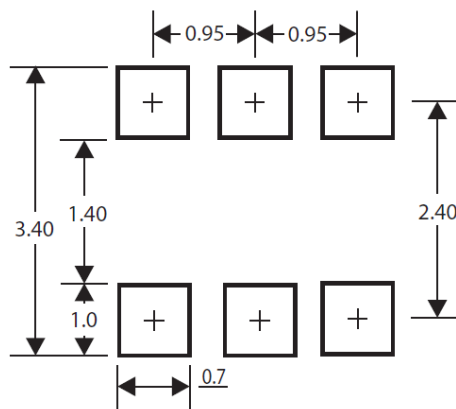
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REF.	Millimeter	
	Min.	Max.
A	2.70	3.10
B	2.60	3.00
C	1.40	1.80
D	-	1.45
E	1.90 REF.	
F	0.30	0.50
G	0	0.10
H	0.60 REF.	
J	0.12 REF.	
K	0°	10°
L	0.95 REF.	

MOUNTING PAD LAYOUT

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*Dimensions in millimeters