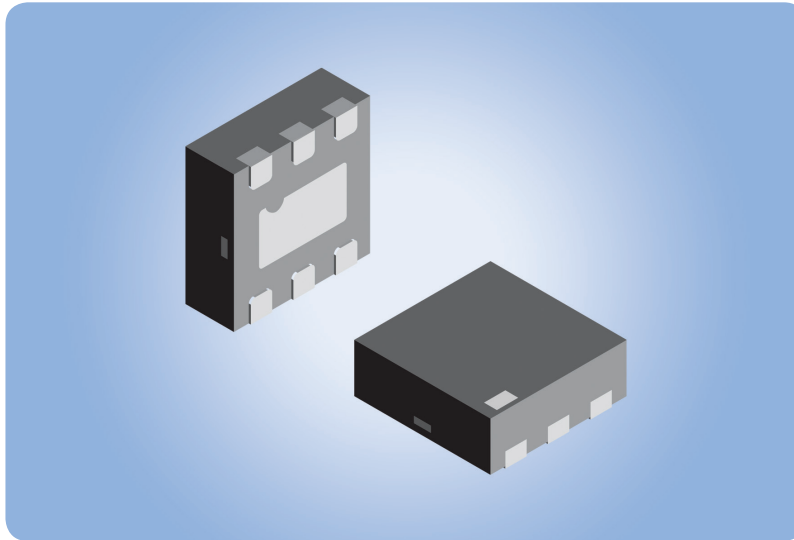




## USB-OTG ESD Protection Bus Port Array Provides Low Typical Capacitance of 0.7 pF in Compact Leadless Package



### KEY BENEFITS

- Low load capacitance:  $C_D = 0.7 \text{ pF}$
- 3-line USB ESD protection with 5 V working range
- $V_{BUS}$  protection with 28 V working range
- Ultra compact LLP75-7L package with low package height < 0.6 mm
- RoHS-compliant

### APPLICATIONS

- ESD protection in high speed data applications for OTG application during battery charging via USB port for portable gaming devices, and mobile phones

### RESOURCES

- Datasheet: VBUS053CZ-HAF - [www.vishay.com/ppg?85200](http://www.vishay.com/ppg?85200)
- For technical questions contact [ESDProtection@vishay.com](mailto:ESDProtection@vishay.com)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



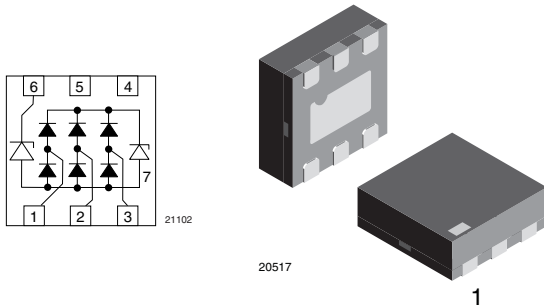
RoHS  
COMPLIANT

HALOGEN  
FREE

GREEN  
(5-2008)

A WORLD OF  
SOLUTIONS™

## USB-OTG ESD Protection Bus Port Array Provides Low Typical Capacitance of 0.7 pF in Compact Leadless Package

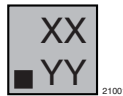


### FEATURES

- Ultra compact LLP75-7L package
- Low package height < 0.6 mm
- 3-line USB ESD protection with max. working range = 5.5 V
- $V_{BUS}$ -protection with 28 V working range
- Low leakage current
- Low load capacitance  $C_D = 0.7$  pF
- ESD immunity to IEC 61000-4-2  $\pm 15$  kV contact discharge  $\pm 15$  kV air discharge
- Surge current acc. IEC 61000-4-5  $I_{PP} > 3$  A
- e4 - precious metal (e.g. Ag, Au, NiPd, NiPdAu) (no Sn)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### MARKING (example only)



Dot = pin 1 marking

XX = date code

YY = type code (see table below)

### DESIGN SUPPORT TOOLS

[click logo to get started](#)



### ORDERING INFORMATION

DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL (8 mm TAPE on 7" REEL)	MINIMUM ORDER QUANTITY
VBUS053CZ-HAF	VBUS053CZ-HAF-G-08	3000	15 000

### PACKAGE DATA

DEVICE NAME	PACKAGE NAME	TYPE CODE	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
VBUS053CZ-HAF	LLP75-7L	UA	4.2 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

### ABSOLUTE MAXIMUM RATINGS VBUS053CZ-HAF

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
<b>Data line D+, D-, ID: Pin 1, 2 and 3 to ground (pin 7)</b>				
Peak pulse current	acc. IEC 61000-4-5; $t_p = 8/20$ $\mu$ s; single shot	$I_{PPM}$	3	A
Peak pulse power	acc. IEC 61000-4-5; $t_p = 8/20$ $\mu$ s; single shot	$P_{PP}$	54	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	$V_{ESD}$	$\pm 15$	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		$\pm 15$	kV
<b><math>V_{BUS}</math>: Pin 6 to ground (pin 7)</b>				
Peak pulse current	acc. IEC 61000-4-5; $t_p = 8/20$ $\mu$ s; single shot	$I_{PPM}$	3	A
Peak pulse power	acc. IEC 61000-4-5; $t_p = 8/20$ $\mu$ s; single shot	$P_{PP}$	156	W
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	$V_{ESD}$	$\pm 30$	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		$\pm 30$	kV
Operating temperature	Junction temperature	$T_J$	-40 to +125	°C
Storage temperature		$T_{STG}$	-55 to +150	°C

Revision: 08-Jan-2019

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [Vishay](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D12V0H1U2WS-7](#) [D18V0L1B2LP-7B](#) [82356050220](#) [D5V0M5U6V-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#)  
[P6KE8.2A](#) [SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ8.0A](#) [SMLJ30CA-TP](#) [ESD101-B1-02ELS E6327](#) [ESD112-B1-02EL E6327](#)  
[ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#) [3.0SMCJ33CA-F](#)  
[3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#) [SCM1293A-04SO](#)  
[ESD200-B1-CSP0201 E6327](#) [ESD203-B1-02EL E6327](#) [SM12-7](#) [SMF8.0A-TP](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#)  
[82356240030](#) [VESD12A1A-HD1-GS08](#) [CPDUR5V0R-HF](#) [CPDUR24V-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#)  
[D1213A-01LP4-7B](#) [D1213A-02WL-7](#) [ESDLIN1524BJ-HQ](#) [5KP100A](#) [5KP15A](#)