



# Comchip

SMD Diode Specialist

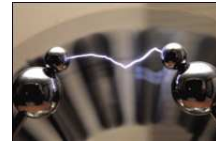
**Comchip Technology Corporation**

ESD Protection Diode  
CPDVR083V3U (SOT-383F Package)  
New Product Announcement

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Version: CM001-A  
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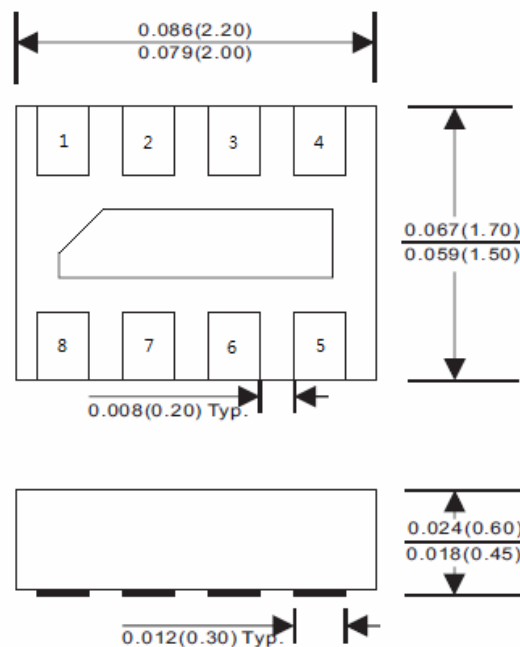
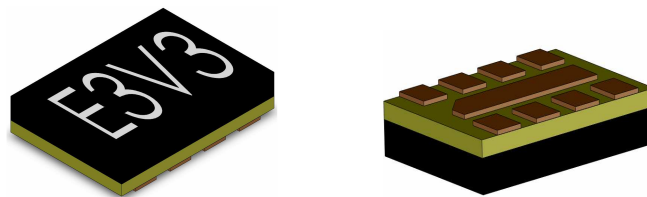
## Product Description

### ESD Protection Array—3.3V Multi-Line



Comchip's CPDVR083V3U is a 3.3V unidirectional 4-line ESD protection array diode that meets the immunity requirements of IEC 61000-4-2 level 4 ( $\pm 20\text{kV}$  air,  $\pm 15\text{kV}$  contact discharge). It features a flow through design that simplifies board layout and reduces board space when compared to 4 single-line discrete devices. This device improves ESD performance by reducing board trace inductance which results in a lower clamping voltage and a higher level of protection when compared to conventional ESD devices.

The CPDVR083V3U utilizes the 8-pin SOT-383F flat chip package which measures: 2.100 x 1.600 x 0.525mm. The device has gold terminations and is RoHS compliant and completely Tin-Free. This small package makes it ideal for uses in portable electronics such as cell phones, digital cameras, and personal navigation devices.



SOT-383F Package

## Features

RoHS compliant  
Tin free  
Halogen free  
IEC6100-4-2(ESD)  $\pm 15\text{kV}$ (contact),  $\pm 20\text{kV}$ (air)  
Working voltage: 3.3V  
Protects four I/O lines  
Flow through design for easy board layout  
Small package retrenches board space  
Low leakage currents  
Low operating and clamping voltages

## Applications

Portable handheld devices      Notebooks  
Portable GPS devices              Digital Cameras  
MP3 Players

## Specifications

Maximum Rating (at  $T_A=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power( $t_p=8/20\text{ us}$ )	Ppp	40	W
Peak pulse current( $t_p=8/20\text{ us}$ )	Ipp	5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	ESD	$\pm 20$ $\pm 15$	kV
Operating Temperature	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature	TSTG	-55 to +125	$^\circ\text{C}$

Electrical Characteristics (at  $T_A=25^\circ\text{C}$  unless otherwise noted)

Parameter	Conditions	Symbol	Typ	Max	Unit
Reverse stand-off voltage		VRWM		3.3	V
Leakage current	VR=3.3V	IL	0.05	0.5	$\mu\text{A}$
Clamping voltage	Ipp=1A, Tp=8/20us, Any channel pin to ground	VC		5.5	V
	Ipp=5A, Tp=8/20us, Any channel pin to ground	VC		8.0	V
Reverse clamping voltage	Ipp=5A, Tp=8/20us	VCR		2.4	V
Junction capacitance	VR=0V, f=1MHz Any channel pin to ground	Cj	25	30	pF
	VR=3.3V, f=1MHz Any channel pin to ground	Cj	14		pF