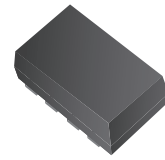




**THE DATASHEET OF  
CPDVR083V3U**



## CPDVR083V3U RoHS Device



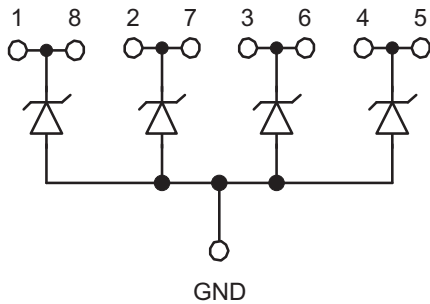
### Features

- IEC61000-4-2 (ESD)  $\pm 15$  kV(Contact),  $\pm 20$  kV(Air).
- Working voltage: 3.3V
- Low leakage current.
- Low operating and clamping voltages.

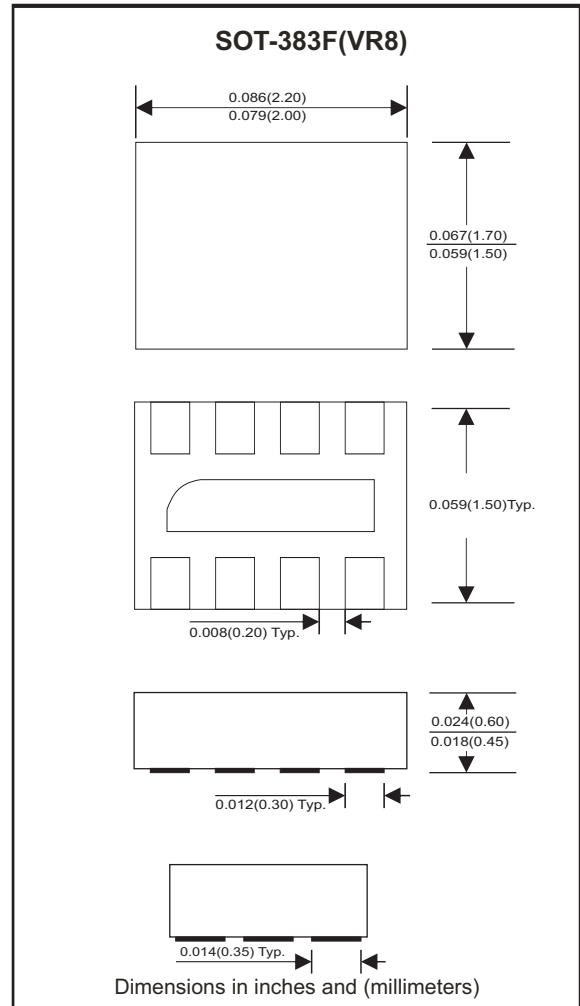
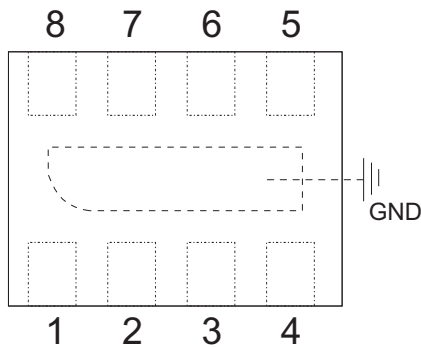
### Mechanical data

- Case: SOT-383F standard package, molded plastic.
- Terminals: Nipd, solderable per MIL-STD-750, method 2026.
- Mounting position: Any

### Circuit Diagram



### Package



## Maximum Ratings (at TA=25°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	°C
Storage temperature	TSTG	-55 to +125	°C

## Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-off voltage		$V_{RWM}$			3.3	V
Punch-through voltage	$I_{PT} = 2\mu A$	$V_{PT}$	3.5			V
Snap-back voltage	$I_{SB} = 50\text{mA}$	$V_{SB}$	2.8			V
Leakage current	$V_R = 3.3\text{V}$	$I_L$		0.05	0.5	$\mu A$
Clamping voltage	$I_{PP} = 1 \text{ A}$ , $T_p=8/20\text{us}$ , Any Channel Pin to Ground	$V_C$			5.5	V
	$I_{PP} = 5 \text{ A}$ , $T_p=8/20\text{us}$ , Any Channel Pin to Ground	$V_C$			8.0	V
Reverse clamping voltage	$I_{PPR} = 1 \text{ A}$ , $T_p=8/20\text{us}$ , Ground to Any Channel Pin	$V_{CR}$			2.4	V
Junction capacitance	$V_R = 0 \text{ V}$ , $f = 1\text{MHz}$ Any Channel Pin to Ground	$C_j$		25	30	pF
	$V_R = 3.3 \text{ V}$ , $f = 1\text{MHz}$ Any Channel Pin to Ground	$C_j$		14		pF

## RATING AND CHARACTERISTIC CURVES (CPDVR083V3U)

Fig. 1 - Non-repetitive max. peak pulse power vs. pulse time

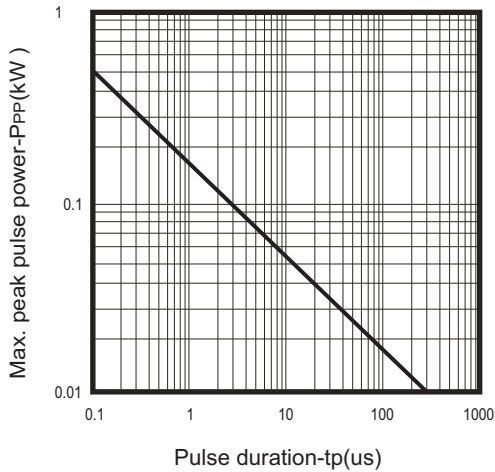


Fig. 2 - Power rating derating curve

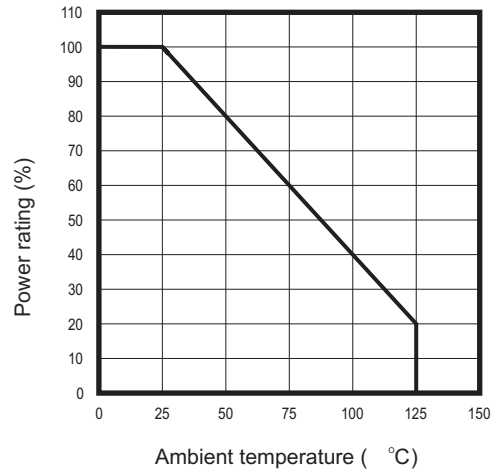


Fig.3 - Clamping voltage vs. peak pulse current

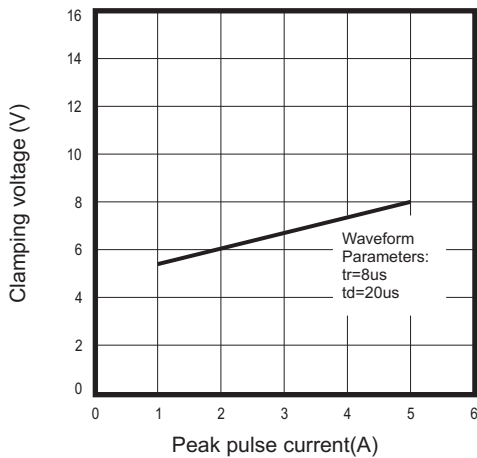


Fig.4 - Forward voltage vs. Forward current

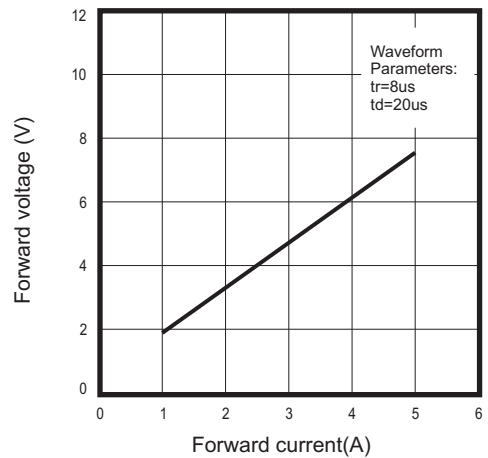
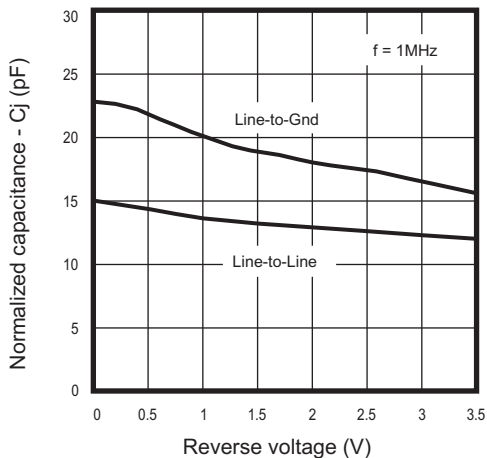
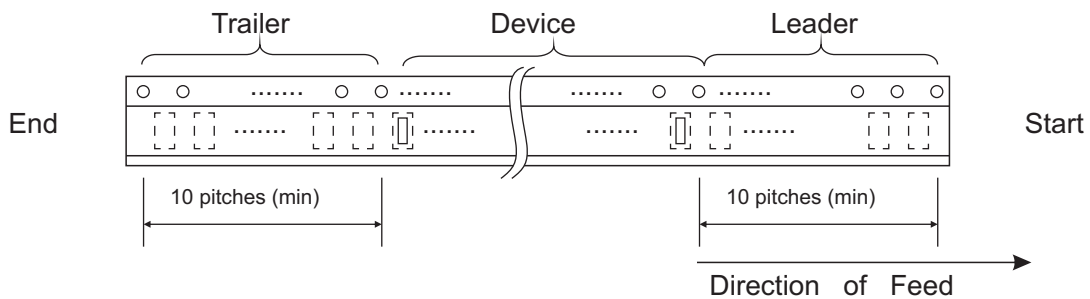
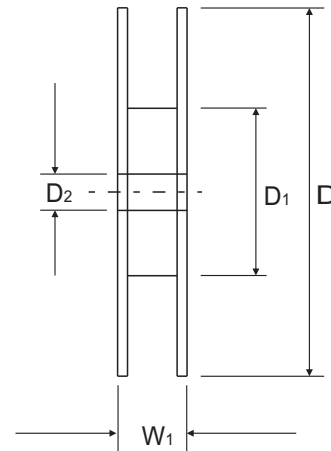
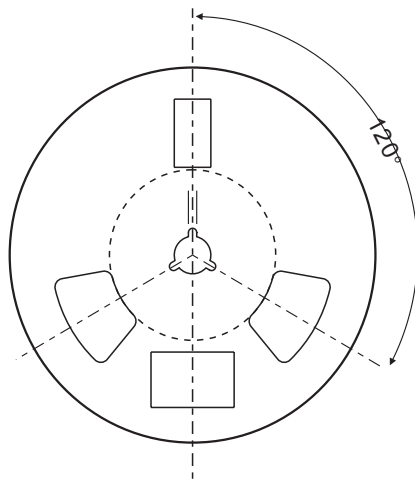
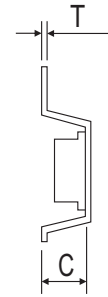
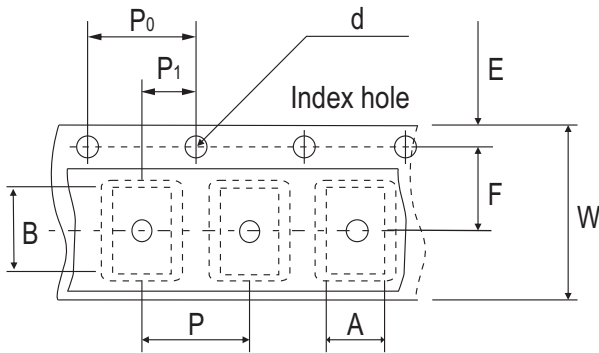


Fig.5 - Junction capacitance vs. reverse voltage



## Reel Taping Specification



SOT-383F	SYMBOL	A	B	C	d	D	D <sub>1</sub>	D <sub>2</sub>
	(mm)	1.96 ± 0.10	2.31 ± 0.10	0.74 ± 0.10	1.55 + 0.10	178 ± 1	60.0 MIN.	13.0 ± 0.20
	(inch)	0.077 ± 0.004	0.091 ± 0.004	0.029 ± 0.004	0.061 + 0.004	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

SOT-383F	SYMBOL	E	F	P	P <sub>0</sub>	P <sub>1</sub>	T	W	W <sub>1</sub>
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.22 ± 0.05	8.00 ± 0.20	13.5 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.008	0.531 MAX.

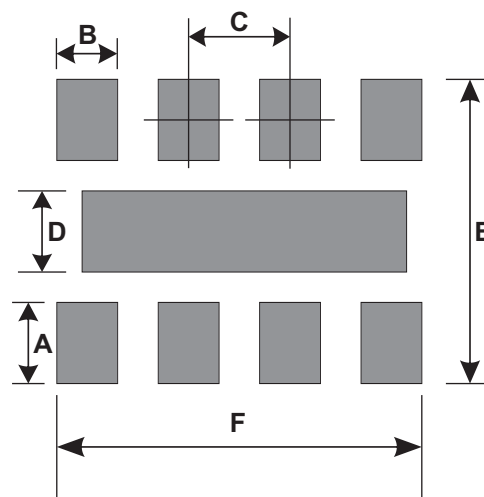
## Marking Code

Part Number	Marking Code
CPDVR083V3U	E3V3



## Suggested PAD Layout

SIZE	SOT-383F(VR8)	
	(mm)	(inch)
A	0.630	0.025
B	0.300	0.012
C	0.500	0.020
D	0.450	0.018
E	2.150	0.085
F	1.800	0.071



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
SOT-383F (VR8)	3,000	7

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