

## ACPDQ03C3V3U-HF

**RoHS Device**  
**Halogen Free**



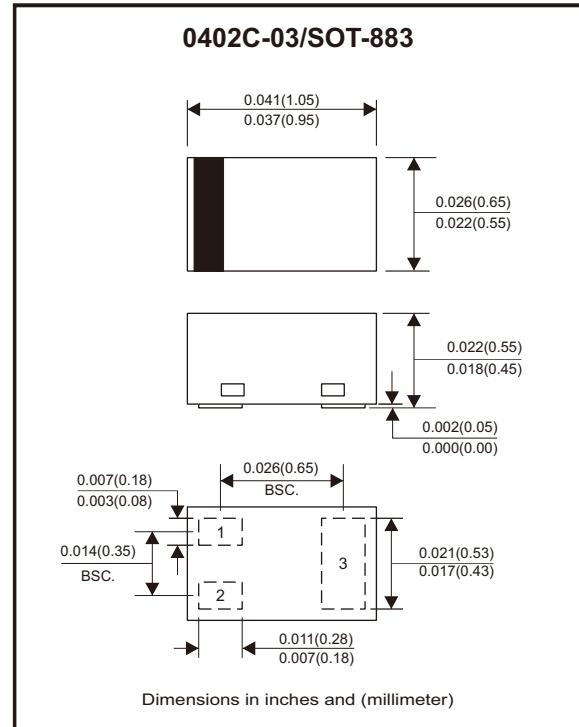
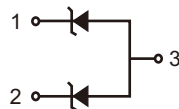
### Features

- Uni-directional ESD protection.
- Low leakage current.
- Low clamping voltage.
- AEC-Q101 Qualified.

### Mechanical data

- Case: 0402C-03/SOT-883 package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: band denotes cathode end.
- Mounting position: Any.

### Circuit Diagram



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

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu\text{s}$	$P_{PP}$	55	W
Peak pulse current	$T_P = 8/20\mu\text{s}$	$I_{PP}$	5	A
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	$\pm 20$	kV
Operating temperature range		$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage temperature range		$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		$V_{RWM}$			3.3	V
Forward voltage	$I_F = 1\text{mA}$	$V_F$			0.98	V
Breakdown voltage	$I_B = 2\mu\text{A}$	$V_{BR}$	3.45			V
Reverse leakage current	$V_{RWM} = 3.3\text{V}$	$I_R$			0.5	$\mu\text{A}$
Punch-through voltage	$I_{PT} = 1\text{mA}$	$V_{PT}$	3.4			V
Snap-back voltage	$I_{SB} = 50\text{mA}$	$V_{SB}$	2.8			V
Clamping voltage	$I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$	$V_C$			8	V
	$I_{PP} = 5\text{A}, T_P = 8/20\mu\text{s}$	$V_C$		9	11	
Junction capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_J$		6	10	pF

## Rating and Characteristic Curves (ACPDQ03C3V3U-HF)

Fig.1 - 8/20 $\mu$ s Peak Pulse Current Waveform Acc. IEC 61000-4-5

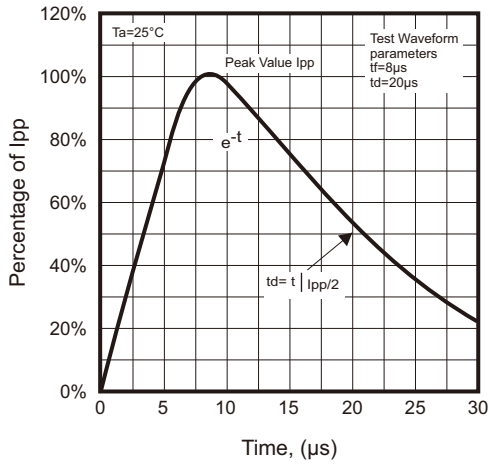


Fig.2 - Power Rating Derating Curve

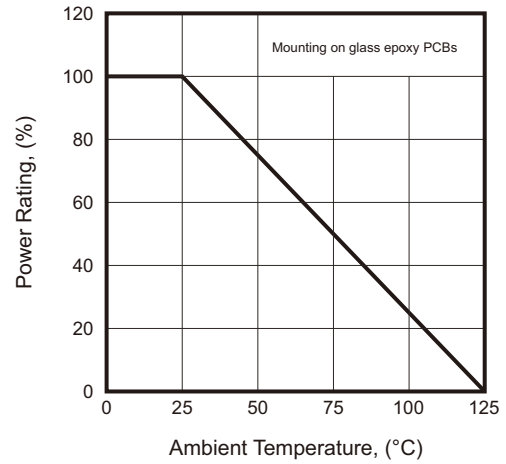


Fig.3 - Typical Clamping Voltage vs. Peak Pulse Current

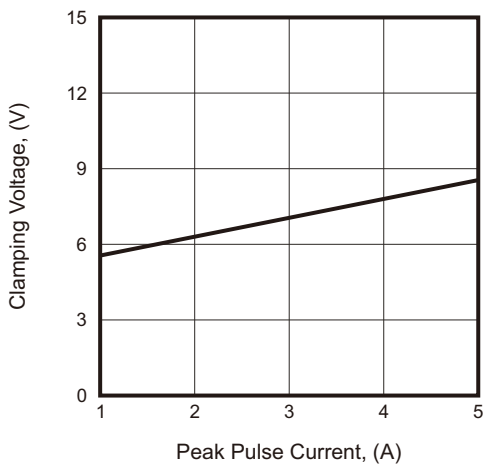
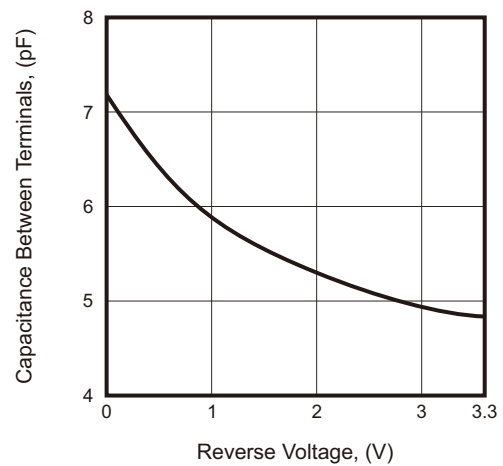
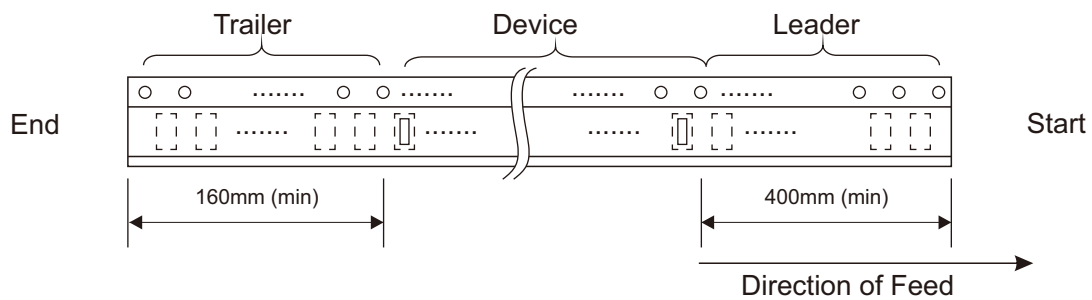
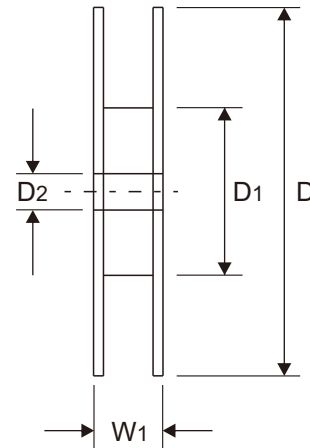
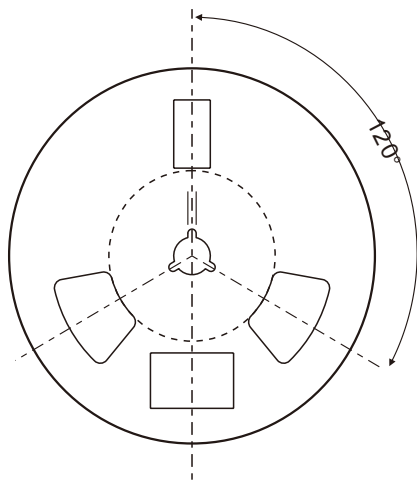
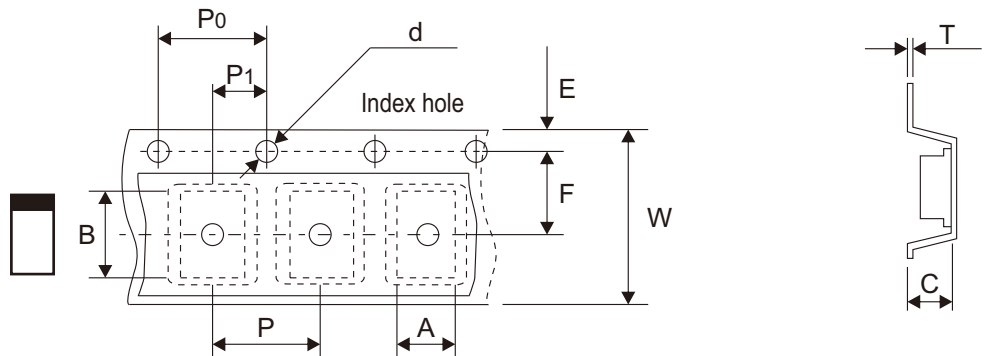


Fig.4 - Typical Capacitance Between Terminals Characteristics



## Reel Taping Specification



0402C-03 (SOT-883)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.75 ± 0.05	1.17 ± 0.05	0.65 ± 0.05	1.50 + 0.10 - 0.00	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.030 ± 0.002	0.046 ± 0.002	0.026 ± 0.002	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0402C-03 (SOT-883)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 + 0.02 - 0.05	8.00 ± 0.20	12.00 + 0.50 - 0.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 + 0.001 - 0.002	0.315 ± 0.008	0.472 + 0.020 - 0.000

Company reserves the right to improve product design, functions and reliability without notice.

REV:A

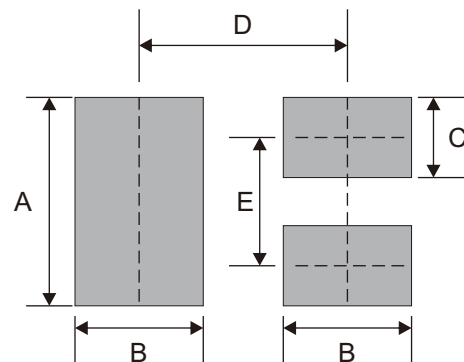
## Marking Code

Part Number	Marking Code
ACPDQ03C3V3U-HF	E3



## Suggested P.C.B. PAD Layout

SIZE	0402C-03 (SOT-883)	
	(mm)	(inch)
A	0.65	0.026
B	0.40	0.016
C	0.25	0.010
D	0.65	0.026
E	0.40	0.016



## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
0402C-03 (SOT-883)	5,000	7