

CPDQC5V0R-HF / CPDUC5V0R-HF

RoHS Device

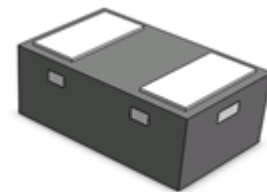
Halogen Free

Table

Part Number	Package
CPDQC5V0R-HF	0402C/SOD-923F
CPDUC5V0R-HF	0603C/SOD-523F

Features

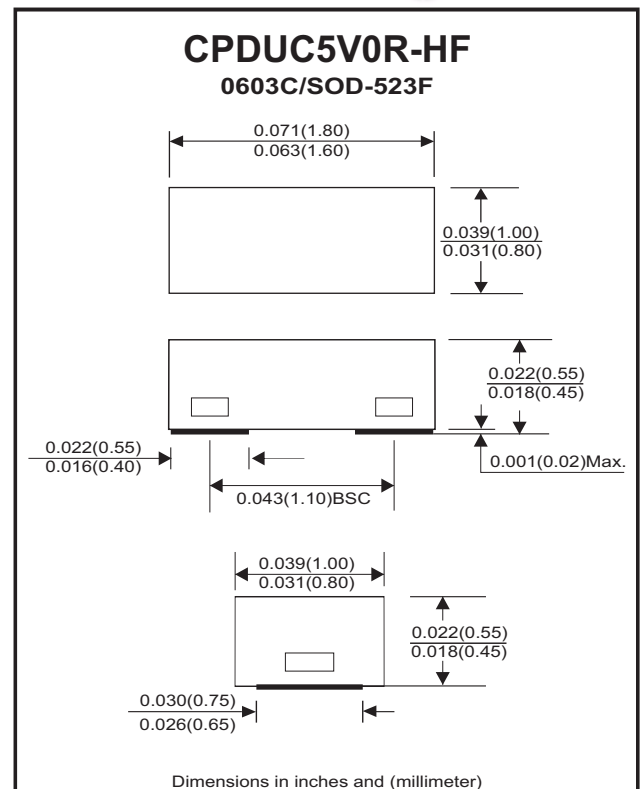
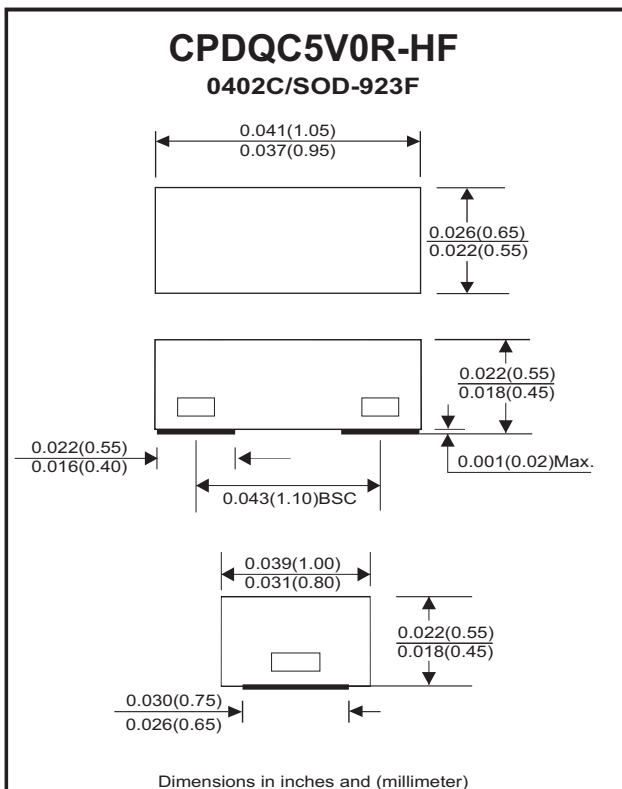
- Bi-directional ESD protection.
- IEC 61000-4-2 (ESD) ; ± 30 KV(contact).
- Surface mount package.
- Operating voltage: 5V
- Low clamping voltage.
- Low leakage current.
- High surge current.



Mechanical data

- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Marking Code: E5R
- Mounting position: Any
- Weight:
 - 0402C: 0.001 grams(approx.).
 - 0603C: 0.003 grams(approx.).

Circuit Diagram



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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-Off voltage		V_{RWM}	-	-	5	V
Diode breakdown voltage	$I_R = 1mA$	V_{BD}	5.6	-	9.4	V
Reverse leakage current	$V_R = 5V$	I_L	-	5	90	nA
Junction capacitance	$V_R = 0V, f = 1MHz$	C_T	-	24	30	pF
ESD capability	IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD	-	-	±30	kV
Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$	V_c	-	-	8	V
	$I_{PP} = 12A, t_p = 8/20\mu s$	V_c	-	-	13	V
Operation temperature		T_j	-40	-	+150	°C
Storage temperature		T_{STG}	-40	-	+150	°C

Rating and Characteristic Curves

Fig.1 - Reverse Characteristics

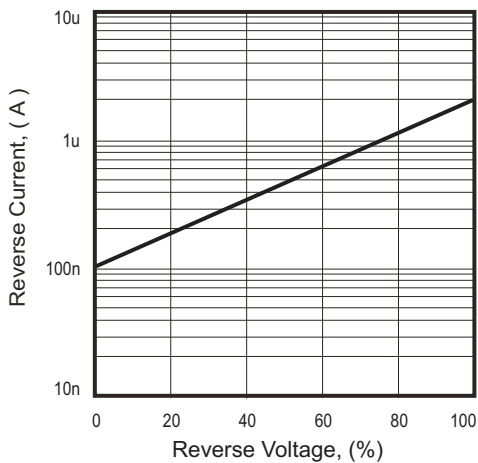


Fig.2 - Typical Capacitance Between Terminals Characteristics

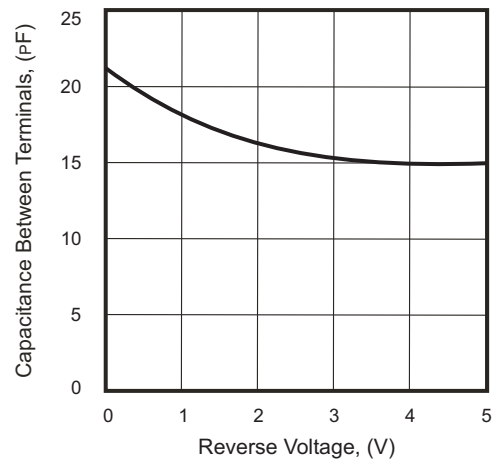


Fig.3 - Clamping Voltage Vs. Peak Pulse Current

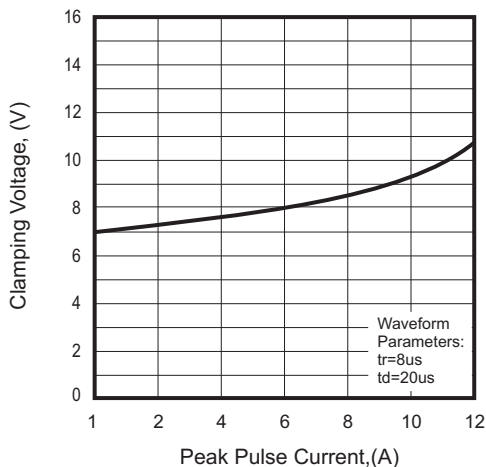
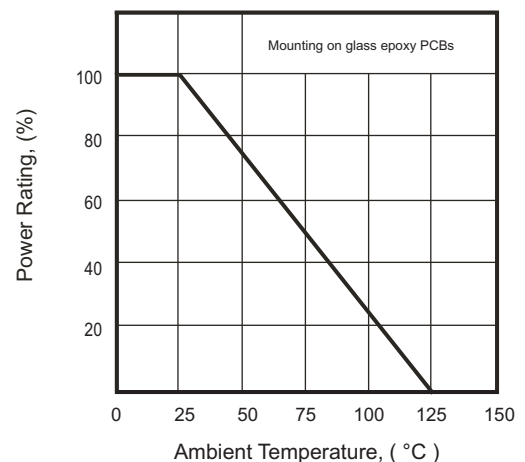
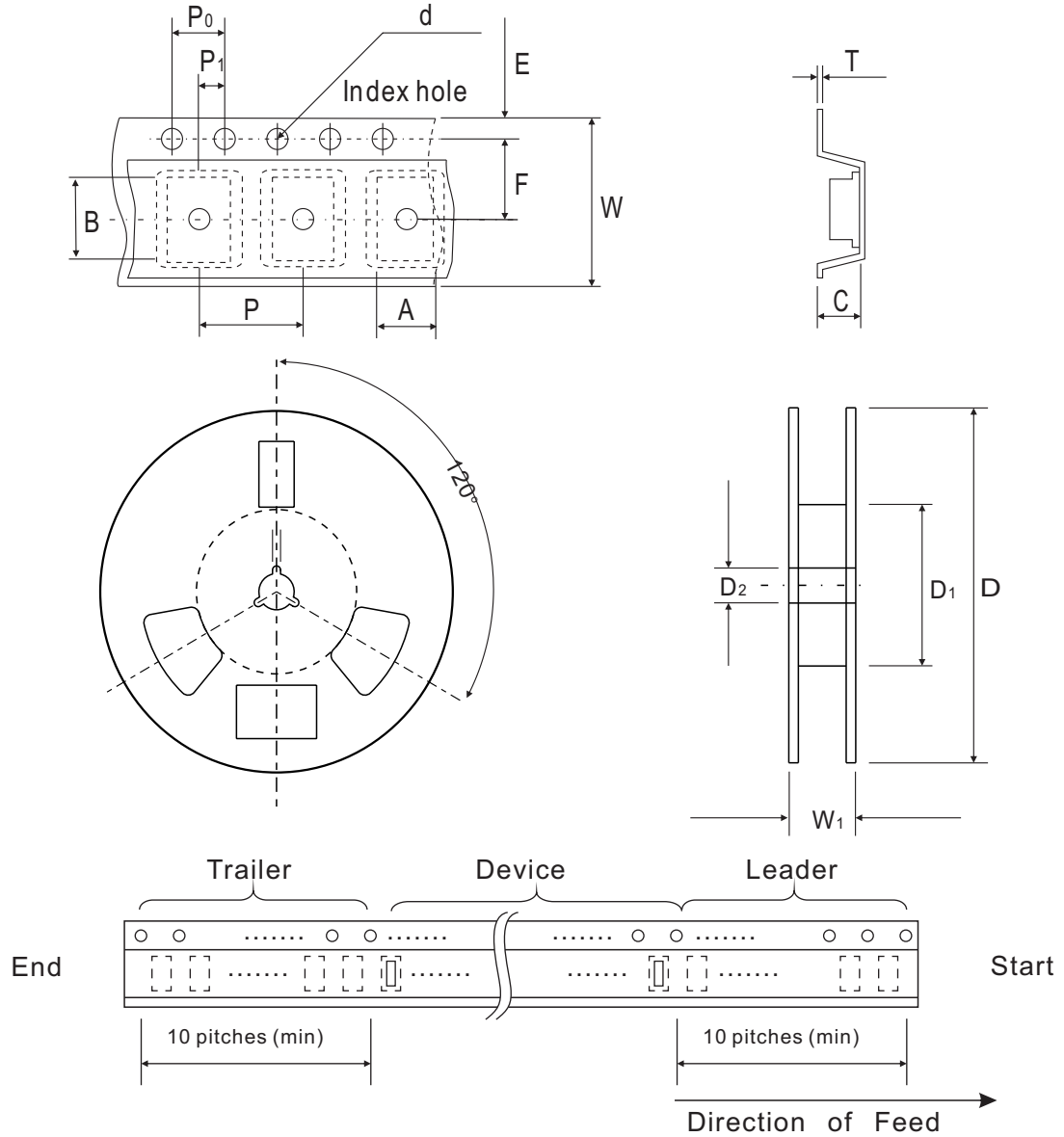


Fig. 4 - Power Rating Derating Curve



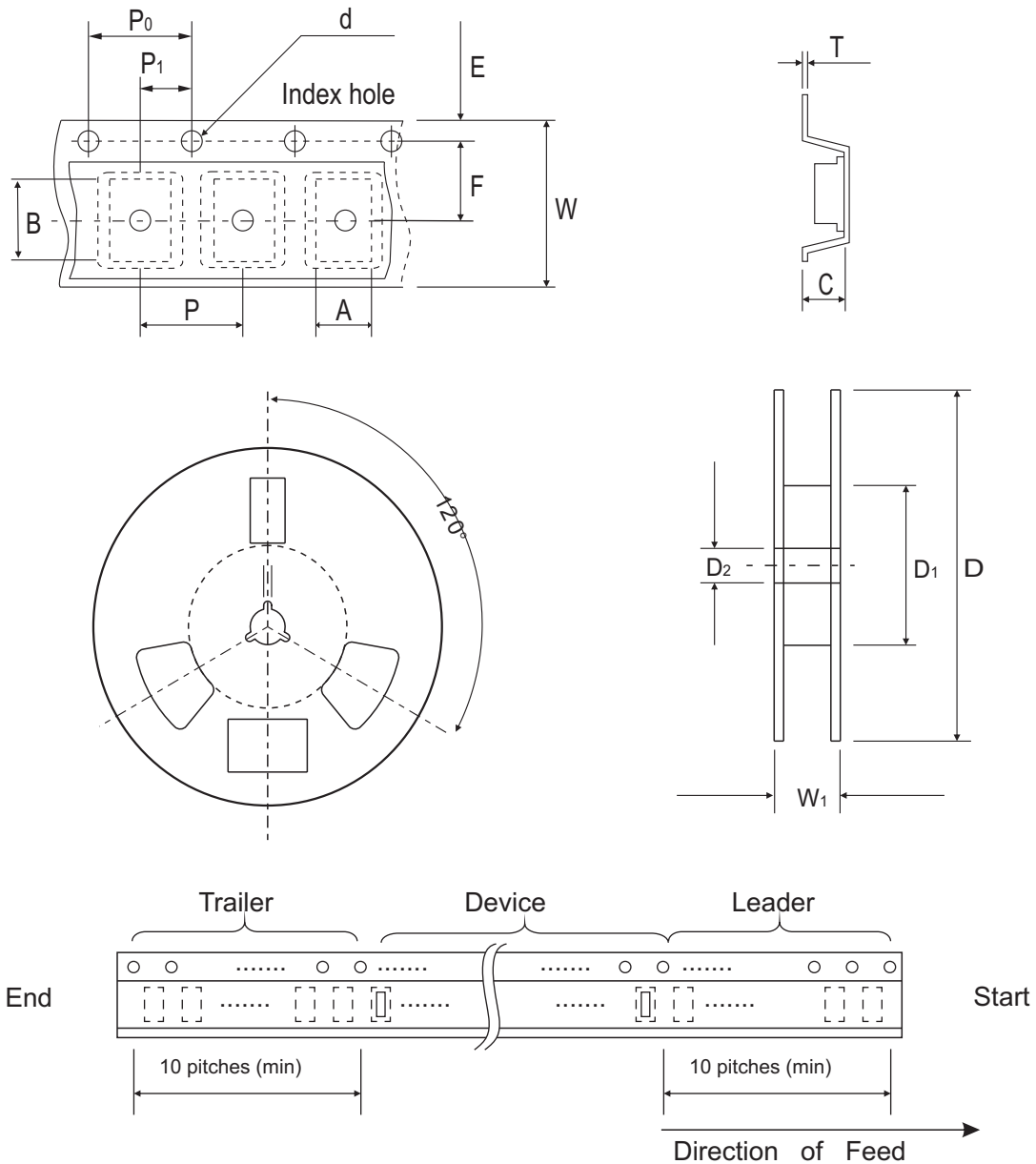
0402C/SOD-923F Reel Taping Specification



0402C/ SOD-923F	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	0.75 ± 0.10	1.15 ± 0.10	0.60 ± 0.10	1.55 ± 0.10	178 ± 1.00	60.0 MIN.	13.0 ± 0.20
	(inch)	0.030 ± 0.004	0.045 ± 0.004	0.024 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

0402C/ SOD-923F	SYMBOL	E	F	P	P ₀	P ₁	T	W	W
	(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	13.50 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.

0603C/SOD-523F Reel Taping Specification



0603C/ SOD-523F	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	1.00 ± 0.10	1.85 ± 0.10	1.00 ± 0.10	1.55 ± 0.10	178 ± 1.00	60.0 MIN.	13.0 ± 0.20
	(inch)	0.039 ± 0.004	0.073 ± 0.004	0.039 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	2.362 MIN.	0.512 ± 0.008

0603C/ SOD-523F	SYMBOL	E	F	P	P ₀	P ₁	T	W	W
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.23 ± 0.05	8.00 ± 0.20	13.50 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
CPDQC5V0R-HF	E5R
CPDUC5V0R-HF	E5R

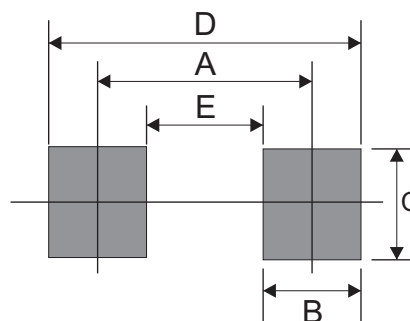
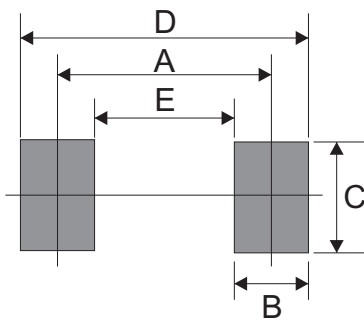


Suggested PAD Layout

SIZE	0402C/SOD-923F	
	(mm)	(inch)
A	0.70	0.028
B	0.40	0.016
C	0.70	0.028
D	1.10	0.043
E	0.30	0.012

Suggested PAD Layout

SIZE	0603C/SOD-523F	
	(mm)	(inch)
A	1.10	0.043
B	0.60	0.024
C	0.80	0.031
D	1.70	0.067
E	0.50	0.020



Standard Packaging

Case Type	Qty Per Reel	Reel Size
	(Pcs)	(inch)
0402C/SOD-923F	5,000	7
0603C/SOD-523F	4,000	7