

SMD ESD Protection Diode

CPDT-5V0SR (RoHS Device)

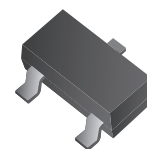
Features

Common anode ESD protection

IEC 61000-4-2 8kV(contact), 15kV(air).

Surface mount package.

High component density.



Mechanical data

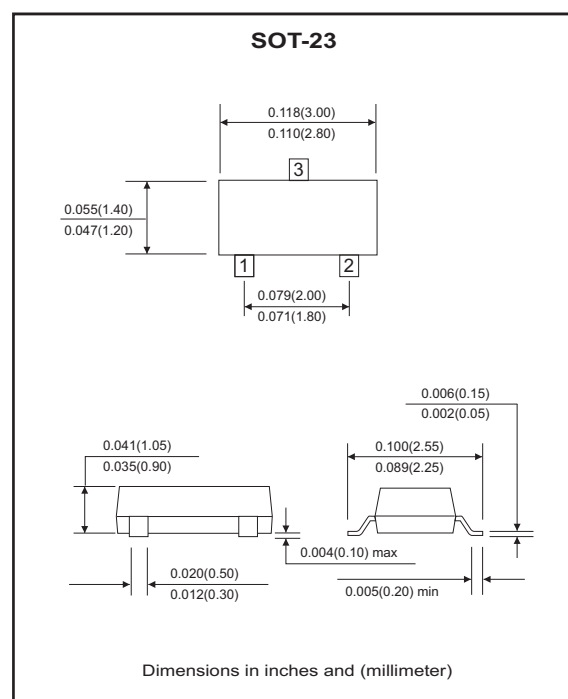
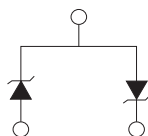
Case: SOT-23 Standard package ,
molded plastic.

Terminals: Gold plated, solderable per
MIL-STD-750, method 2026.

Marking Code: E5SR

Mounting position: Any.

Weight: 0.0078 gram (approx.).



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

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Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Diode breakdown voltage	V_{BD}	$I_R = 1\text{mA}$	6.1		7.1	V
Leakage current	I_L	$V_R = 3\text{V}$		0.1	1.0	μA
Forward voltage	V_F	$I_F = 5\mu\text{A}$			1.2	V
Junction capacitance	C_T	$V_R = 0\text{V}, f = 1\text{MHz}$		60	80	pF
Clamping voltage	V_C	$I_{PP} = 1\text{A}, T_P = 8/20\mu\text{s}$ $I_{PP} = 8\text{A}, T_P = 8/20\mu\text{s}$			8 10	V
ESD capability	ESD	$C = 150\text{pF}, R = 300\Omega$, forward and reverse 10 pulses	8			kV
Peak pulse power	P_{PP}				80	W
Operation temperature	T_J				125	°C
Storage temperature	T_{STG}		-55		150	°C

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RATING AND CHARACTERISTIC CURVES (CPDT-5V0SR)

Fig. 1 - 8/20us Peak pulse current wave form acc. IEC 61000-4-5

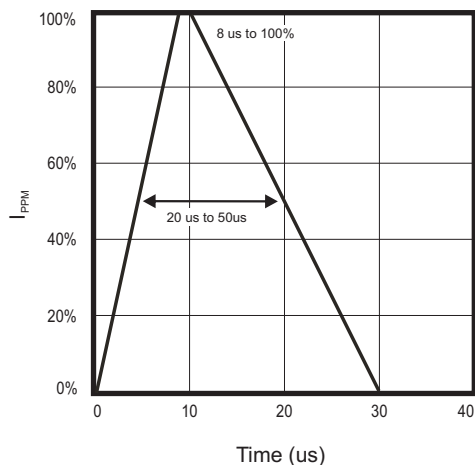


Fig. 2 - Power rating derating curve

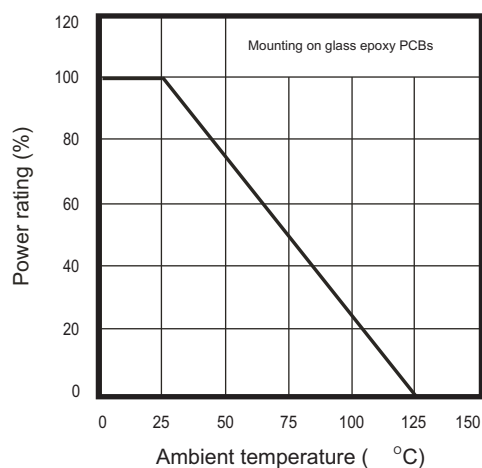


Fig. 3 - Clamping voltage vs. peak pulse current

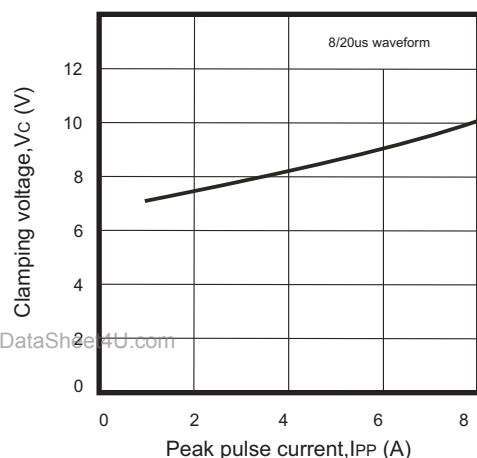
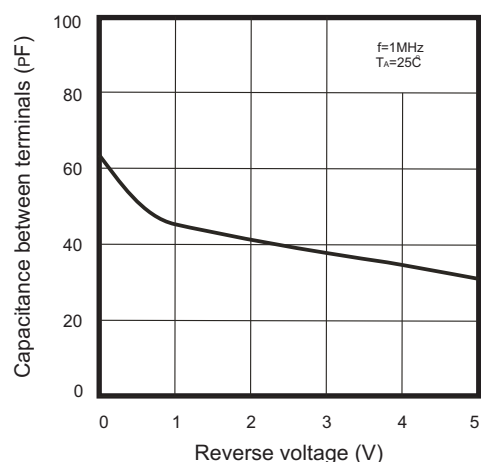
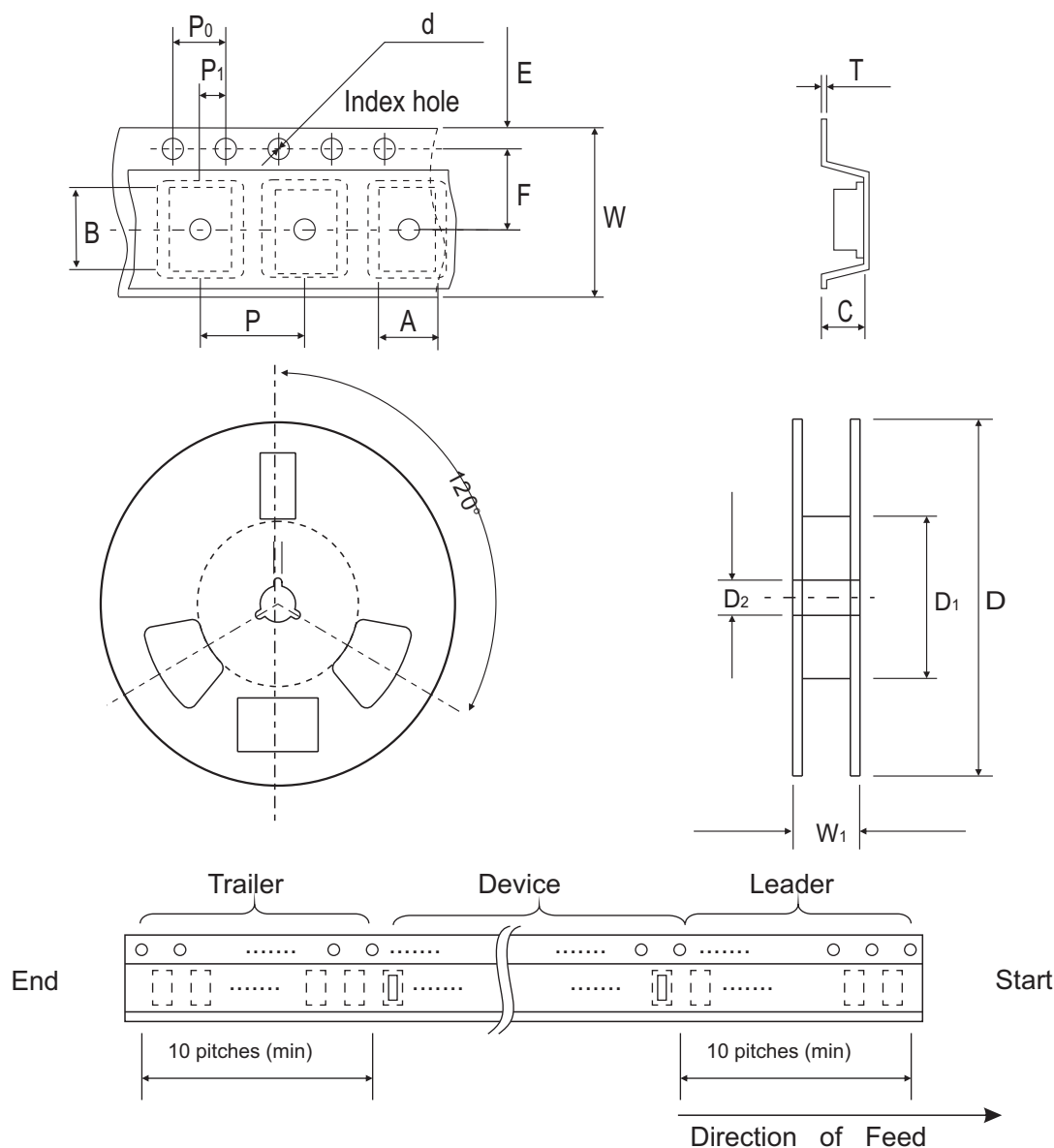


Fig. 4 - Capacitance between terminals characteristics



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Reel Taping Specification



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SOT-23	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	3.10 ± 0.10	2.85 ± 0.10	1.40 ± 0.10	1.55 ± 0.10	178 ± 1	50.0 MIN.	13.0 ± 0.20
	(inch)	0.122 ± 0.004	0.112 ± 0.004	0.055 ± 0.004	0.061 ± 0.004	7.008 ± 0.04	1.969 MIN.	0.512 ± 0.008

SOT-23	SYMBOL	E	F	P	P ₀	P ₁	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 ± 0.30	14.4 MAX.
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 ± 0.012	0.567 MAX.

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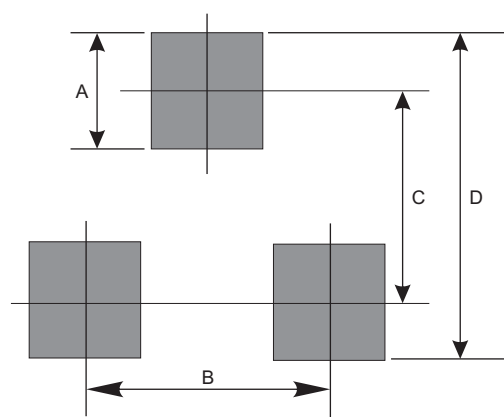
Marking Code

Part Number	Marking Code
CPDT-5V0SR	E5SR



Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	1.90	0.075
C	2.02	0.080
D	2.82	0.111



Standard Package

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Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
SOT-23	3000	7