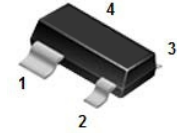


CPDT4-5V0U-HF

RoHS Device
Halogen Free

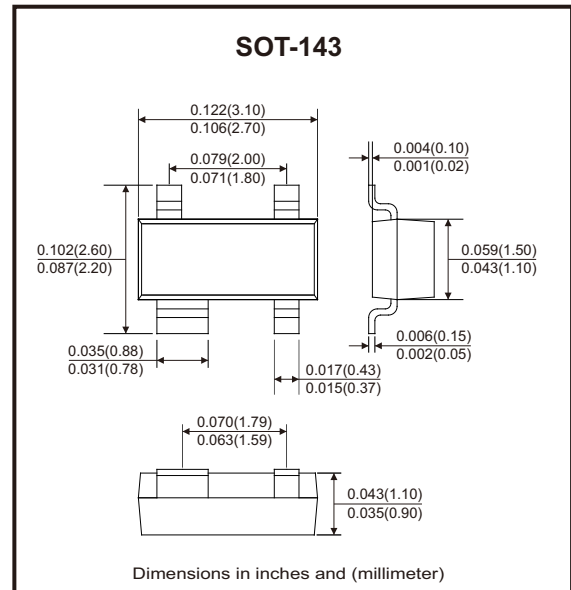


Features

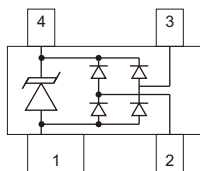
- ESD/ transient protection of high speed data lines. IEC 61000-4-2 (ESD): $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact).
- Low leakage current.
- Low clamping voltage.
- Low capacitance for high-speed data line.

Mechanical data

- Case: SOT-143, molded plastic.
- Terminals: Matte tin-plated leads, solderability per MIL-STD-202, method 208.
- Molding compound: UL flammability classification rating 94V-0.
- Mounting position: Any.



Circuit Diagram



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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (air)	V_{ESD-A}	± 30	kV
IEC 61000-4-2; ESD (contact)	V_{ESD-C}	± 30	kV
Peak pulse power ($t_p = 8/20\mu\text{s}$)	P_{PP}	500	W
Peak pulse current ($t_p = 8/20\mu\text{s}$)	I_{PP}	25	A
Junction temperature range	T_j	-55 to +125	°C
Storage temperature range	T_{STG}	-55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse stand-off voltage		V_{RWM}			5	V
Reverse breakdown voltage	$I_T = 1\text{mA}$	$V_{(BR)}$	6			V
Reverse leakage current	$V_{RWM} = 5\text{V}$	I_R			0.5	μA
Clamping voltage	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$	V_C			9	V
	$I_{PP} = 25\text{A}$, $t_p = 8/20\mu\text{s}$	V_C			20	
Junction capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ (I/O to I/O)	C_J		3		pF
	$V_R = 0\text{V}$, $f = 1\text{MHz}$ (I/O to GND)	C_J			6	

Rating and Characteristic Curves (CPDT4-5V0U-HF)

Fig.1 - 8/20 μs waveform per IEC 61000-4-5

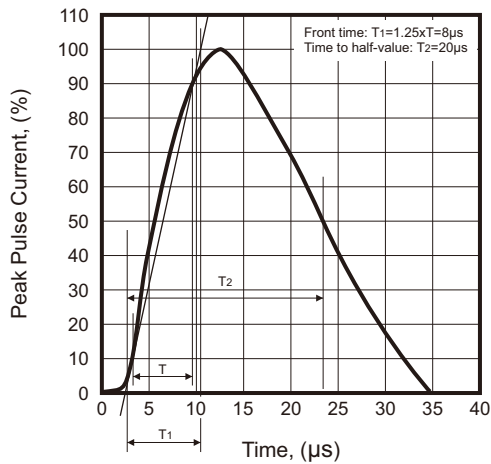


Fig.2 - ESD Pulse Waveform According to IEC 61000-4-2

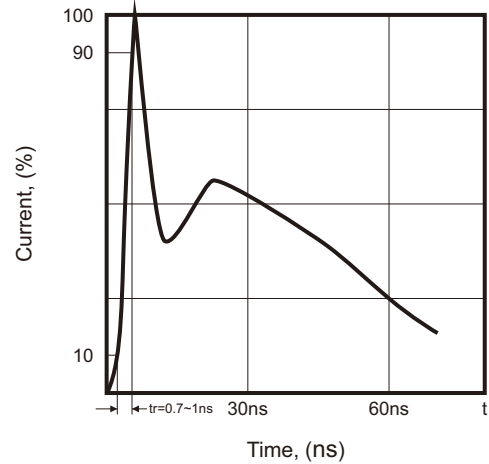
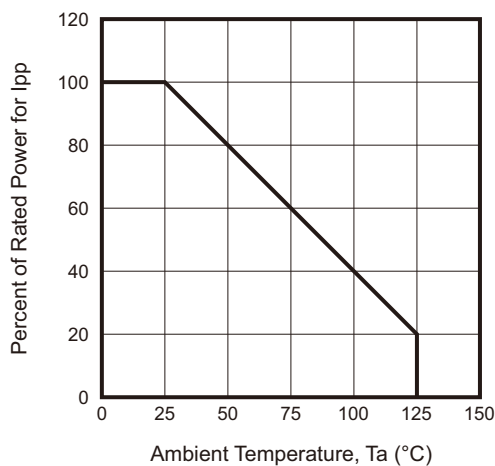
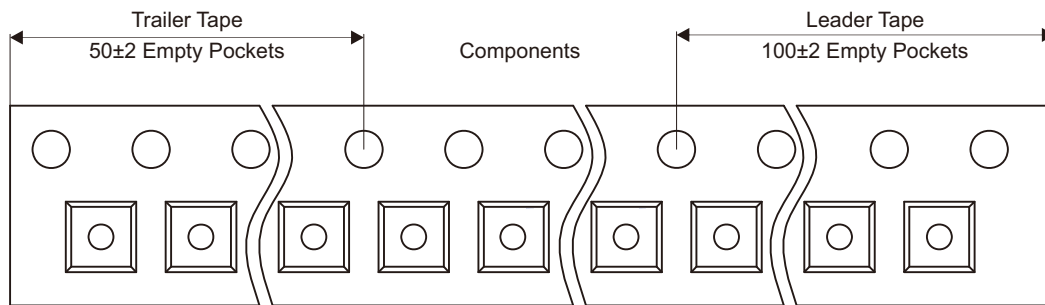
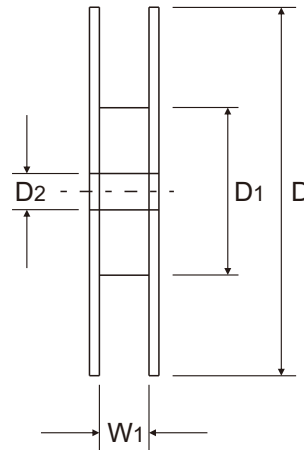
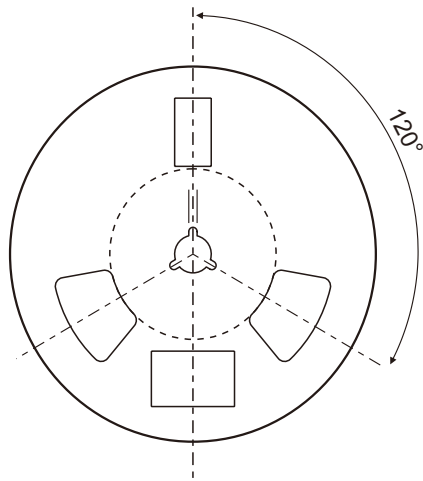
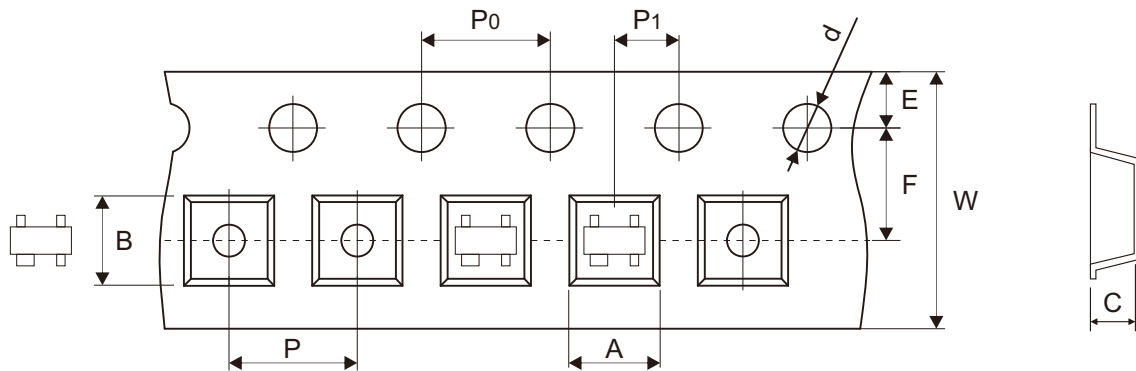


Fig.3 - Power Derating Curve



Reel Taping Specification

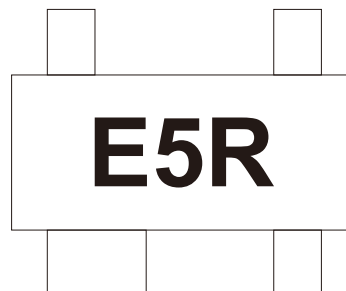


SOT-143	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	3.19 ± 0.10	2.80 ± 0.10	1.31 ± 0.10	1.50 ± 0.10	178.00 ± 1.00	54.00 ± 0.50	13.00 ± 0.50
	(inch)	0.126 ± 0.004	0.110 ± 0.004	0.052 ± 0.004	0.059 ± 0.004	7.008 ± 0.039	2.126 ± 0.020	0.512 ± 0.020

SOT-143	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.254 ± 0.013	8.00 + 0.30 - 0.10	9.50 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.010 ± 0.001	0.315 + 0.012 - 0.004	0.374 ± 0.039

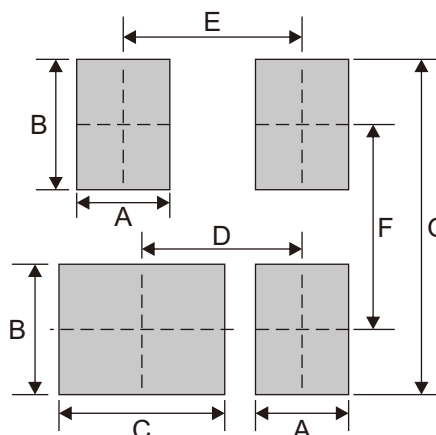
Marking Code

Park Number	Marking Code
CPDT4-5V0U-HF	E5R



Suggested P.C.B. PAD Layout

SIZE	SOT-143	
	(mm)	(inch)
A	1.00	0.039
B	1.40	0.055
C	1.78	0.070
D	1.72	0.068
E	1.92	0.076
F	2.20	0.087
G	3.60	0.142



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-143	3,000	7