

Ultra Low capacitance & Low Clamping Voltage

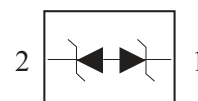
Bi-directional ESD / Transient Protection Diodes

FEATURES

- Transient protection for data lines to
 - IEC61000-4-2(ESD) : Air mode $\pm 30\text{kV}$ / Contact mode $\pm 30\text{kV}$
 - IEC61000-4-5(Surge) : $9\text{A}(t_p=8/20\text{ us})$
- Low capacitance $C_T = 0.9\text{pF}(\text{Max})$
- Bi-directional, symmetrical working voltage up to : $V_{RWM} = \pm 5\text{V}$
- Ultra small Size $1.0 \times 0.6 \times 0.4\text{mm}$
- Low reverse current : 100nA Max ($V_R=5\text{V}$)
- Non Suffix : ULP-2 Package ex) PS05TCBUL2-RTL/H
- Suffix U : ULP-2 Package& Qualified to AEC-Q101 ex) PS05TCBUL2-RTL/HU
- Suffix R : ULP-2(4) Package ex) PS05TCBUL2-RTL/HR
- Suffix UR : ULP-2(4) Package&Qualified to AEC-Q101 ex) PS05TCBUL2-RTL/HUR
- Suffix P : ULP-2(5) Package ex) PS05TCBUL2-RTL/HP
- Suffix UP : ULP-2(5) Package&Qualified to AEC-Q101 ex) PS05TCBUL2-RTL/HUP



ULP-2 (leadless-type)



1. CATHODE 2. CATHODE

Pin configurations (Bi-directional)

PRODUCT DESCRIPTION

- Molding compound flammability rating : UL 94V-0
- Pb-Free, Halogen-Free, RoHs Compliant

Package dimensions (ULP-2)	Package dimensions (ULP-2(4))	Package dimensions (ULP-2(5))																																																				
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ORDERING INFORMATION

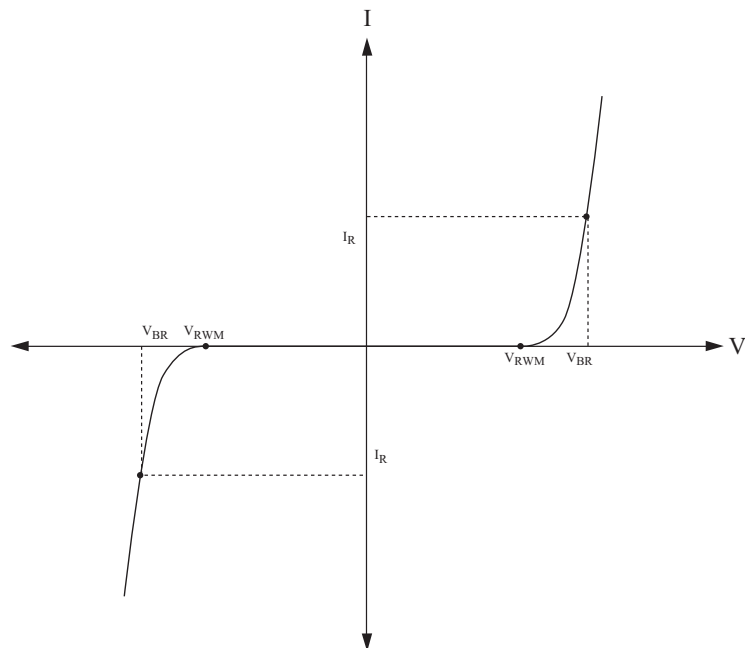
Part Number	Qty per Reel	Reel Size	Marking code
PS05TCBUL2-RTL	10,000	7 inch	O

PS05TCBUL2

MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Pulse Power (tp=8/20 μs)	P _{PK}	120	W
Peak Pulse Current (tp=8/20 μs)	I _{PP}	9	A
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 150	°C

DEFINITIONS OF ELECTRICAL CHARACTERISTIC SYMBOL

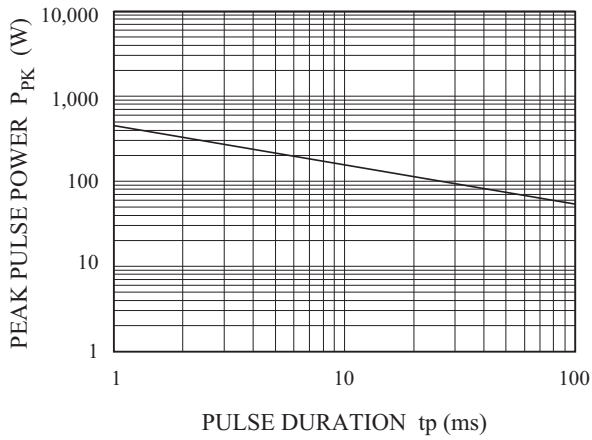


ELECTRICAL CHARACTERISTICS (Ta=25°C)

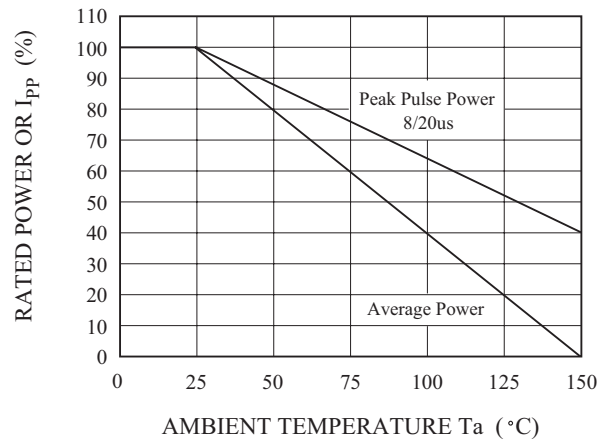
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V _{RWM}	-	-	-	5	V
Reverse Leakage Current	I _R	V _{RWM} =5V	-	-	100	nA
Reverse Breakdown Voltage	V _{BR}	I _t =1mA	5.5	-	-	V
Clamping Voltage	V _C	I _{pp} =1A, tp=8/20 μs (IEC61000-4-5)	-	8	10	V
		I _{pp} =9A, tp=8/20 μs (IEC61000-4-5)	-	13	15	
Dynamic Resistance	R _{DYN}	-	-	0.35	-	Ω
Total Capacitance	C _T	V _R =0V, f=1MHz	-	-	0.9	pF
Electrostatic Discharge	V _{ESD}	IEC61000-4-2	Air	±30	-	kV
			Contact	±30		

PS05TCBUL2

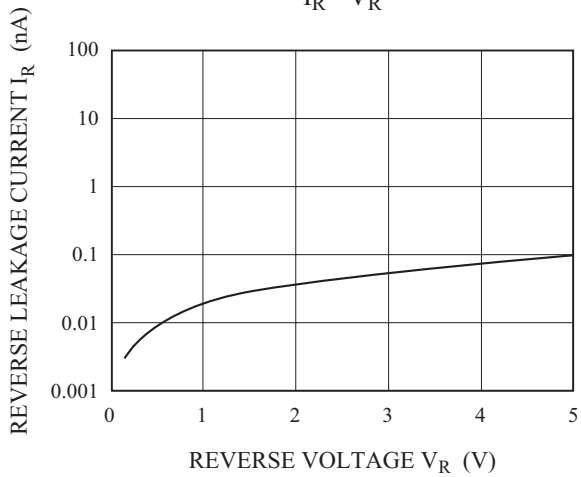
NON-REPETITIVE PEAK PULSE
POWER VS. PULSE TIME



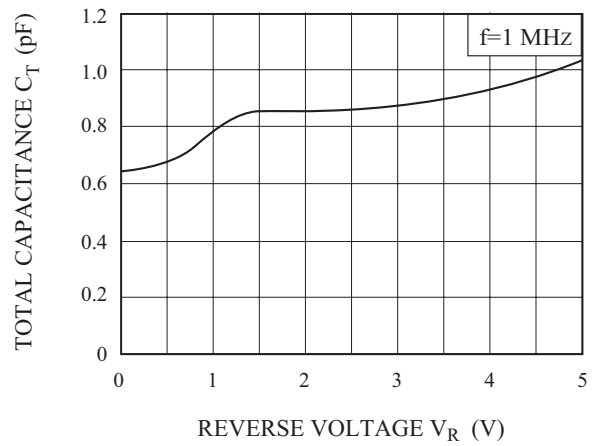
POWER DERATION CURVE



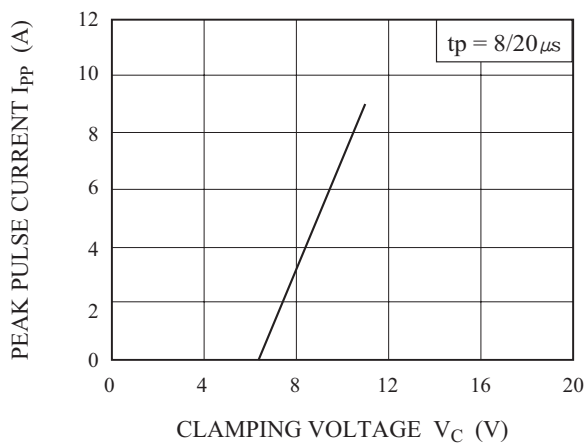
$I_R - V_R$



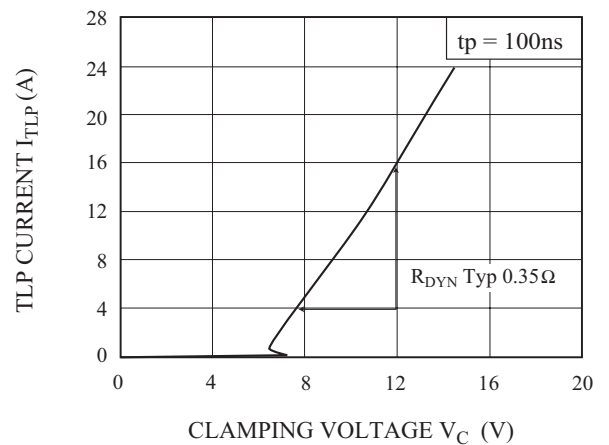
$C_T - V_R$



$I_{pp} - V_C$

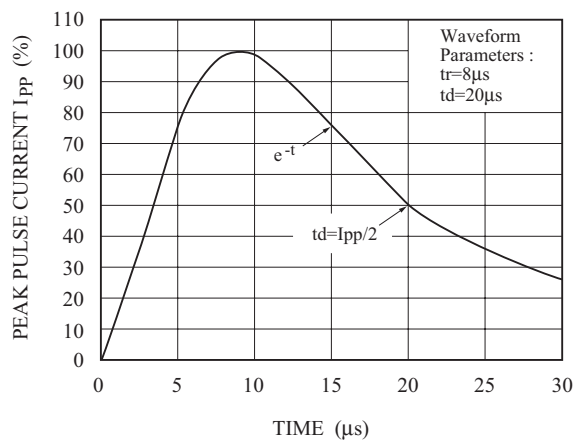


$I_{TLP} - V_C$



PS05TCBUL2

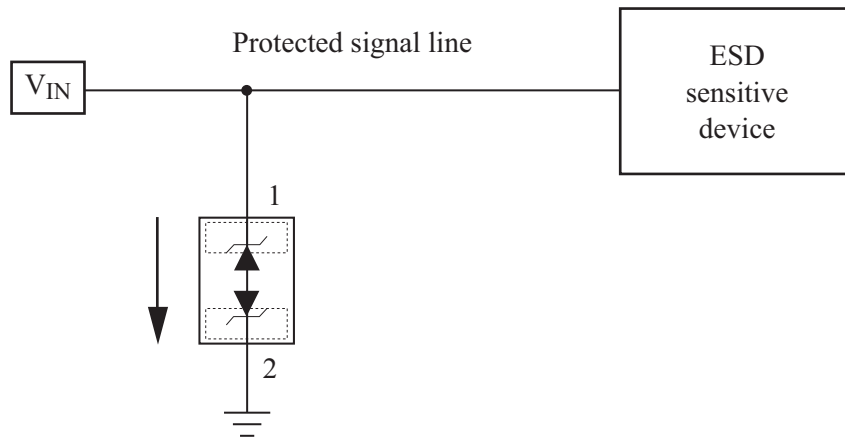
PULSE WAVEFORM



PS05TCBUL2

APPLICATIONS

- USB 2.0, 10/100/1000 Ethernet, DVI
- MDDI Port
- LCD-Display, Camera
- GPS / FM Antennas
- LVDS
- High speed data lines



Recommended pad dimension & Marking Information

Recommended pad dimension	Marking Code