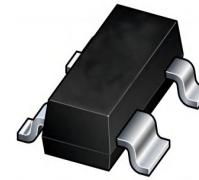


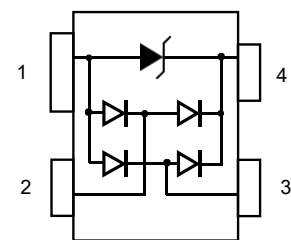
Discription

The PRTR5V0U2X-UDU is a 2-channel ultra low capacitance rail clamp ESD protection diodes array. Each channel consists of a pair of ESD diodes that steer positive or negative ESD current to either the positive or negative rail. A zener diode is integrated in to the array between the positive and negative supply rails. In the typical applications, the negative rail pin (assigned as GND) is connected with system ground. The Positive ESD current is steered to the ground through an ESD diode and Zener diode and the positive ESD voltage is clamped to the zener voltage.



Pin 1

SOT-143



Circuit Diagram

FEATURES

- 350 W Peak Power per Line ($t_p = 8/20\mu s$)
- SOT-143 package
- ESD Protection > 15 kV
- Unidirectional configurations
- Protects 2 I/O Ports & Power Supply
- Low Capacitance: 4 pF
- Low clamping voltage
- RoHS Compliant in Lead-Free Versions
- Transient protection for data lines to IEC 61000-4-2(ESD)
 $\pm 15KV(\text{air}) \pm 8KV(\text{contact}); \text{IEC } 61000-4-4 (\text{EFT}) 40A (5/50ns)$

Ordering information

Product ID	Pack	Qty(PCS)
PRTR5V0U2X-UDU	SOT-143	3000

Absolute Ratings ($T_{\text{amb}}=25^{\circ}\text{C}$)

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{pp}	350	W
Peak Pulse Power ($t_p=8/20\mu s$)	I_{pp}	9	A
Operating Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical characteristics per line@(unless otherwisespecified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6		8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0V, T = 25^\circ C$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			12.5	V
Clamping Voltage	V_C	$I_{PP} = 5A, t_p = 8/20\mu s$			24.0	V
Capacitance Between IO and GND	C_J	$V_R = 0V, f = 1MHz$		3.0		pF
Capacitance Between IO and I/O	C_J	$V_R = 0V, f = 1MHz$		1.5		pF

Characteristic Curves

FIG1: Pulse Waveform

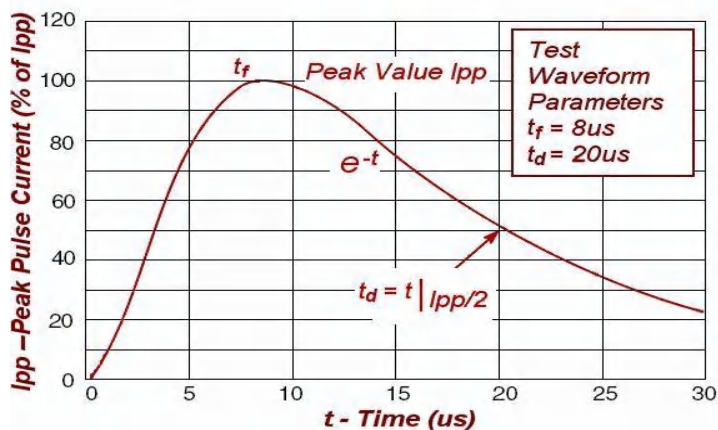
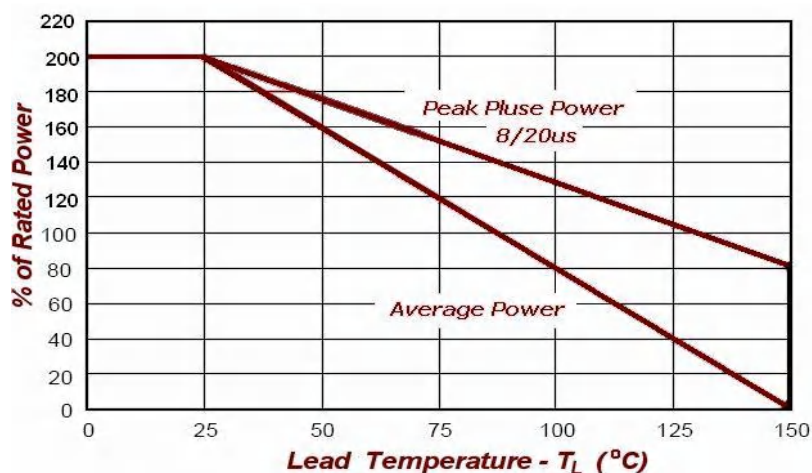
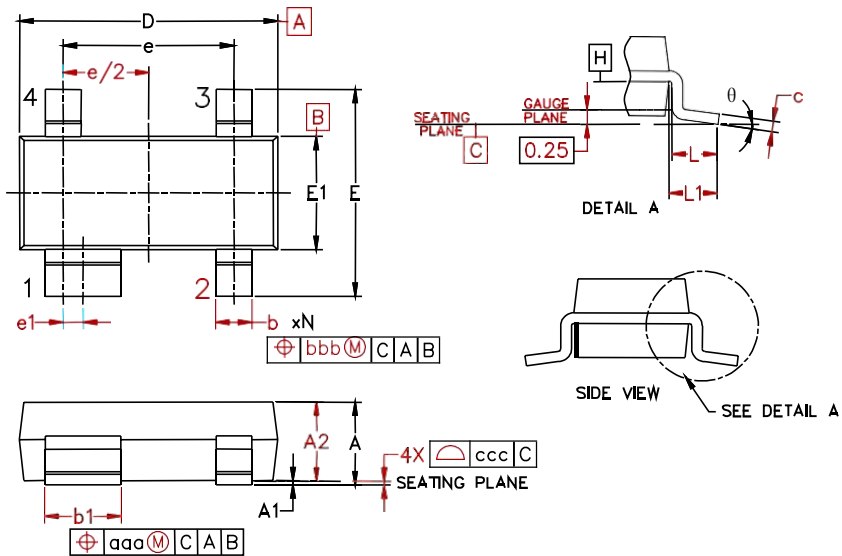


FIG2: Power Derating



PACKAGE MECHANICAL DATA



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.031	-	0.048	0.80	-	1.22
A1	0.000	-	0.008	0.013	-	0.15
A2	0.020	0.035	0.042	0.75	0.90	1.07
b	0.011	-	0.020	0.30	-	0.51
b1	0.029	-	0.037	0.76	-	0.94
c	0.003	-	0.008	0.08	-	0.20
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075			1.92 BSC		
e1	0.008			0.20 BSC		
L	0.015	0.020	0.024	0.40	0.50	0.60
L1	(0.021)			(0.54)		
N	4			4		
θ	0°	-	8°	0°	-	8°
aaa	0.006			0.15		
bbb	0.008			0.20		
ccc	0.004			0.10		