

PSM712 ESD Protection Diode

Feature

- Bi-directional ESD protection of two lines
- 350 Watts peak pulse power ($t_p = 8/20\mu s$)
- Junction capacitance: 55pF(Typ)
- Low clamping voltage
- IEC 61000-4-2 $\pm 8kV$ contact $\pm 15kV$ air
- IEC 61000-4-5 (Lightning) 17A (8/20 μs)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

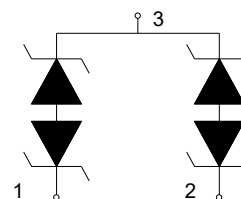
Application

- RS-485
- Security systems
- Automatic teller machines
- HFC systems

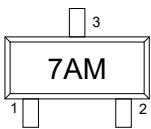
Mechanical Data

- Package: SOT-23
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
PSM712	SOT-23		3000 Tape & Reel	7 inches

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	P_{pk}	-	350	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I_{PP}		17	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V_{ESD}	-	± 15	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V_{ESD}	-	± 8	kV
Junction temperature	T_J	-	150	$^{\circ}\text{C}$
Operating temperature	T_{OP}	-40	125	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55	150	$^{\circ}\text{C}$
Lead temperature	T_L	-	260	$^{\circ}\text{C}$

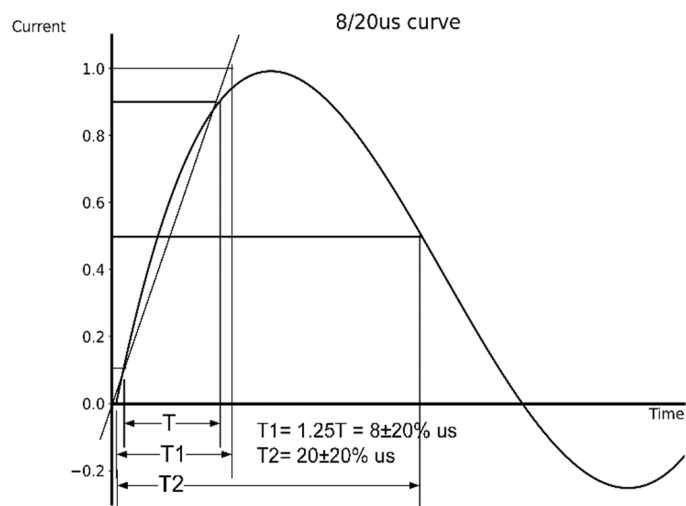
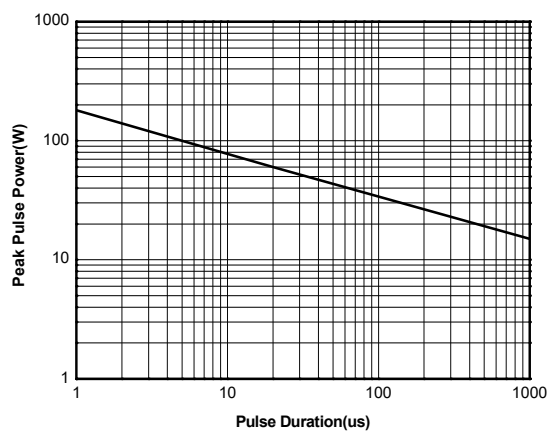
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}	Pin1 or Pin2 to Pin3			12	V
		Pin3 to Pin1 or Pin2			7	
Reverse Breakdown Voltage	V_{BR}	Pin1 or Pin2 to Pin3; $I_R=1\text{mA}$	13.3			V
		Pin3 to Pin 1or Pin2; $I_R=1\text{mA}$	7.5			
Reverse Leakage Current	I_R	Pin1 or Pin2 to Pin3; $V_{RWM}=12\text{V}$			1	μA
		Pin3 to Pin1or Pin2; $V_{RWM}=7\text{V}$			1	
Peak Pulse Current	I_{PP}	Pin1 or Pin2 to Pin3		17		A
		Pin3 to Pin1 or Pin2		17		
Clamping Voltage	V_{CL}	Pin1 or Pin2 to Pin3; $I_{PP}=17\text{A}$		26		V
		Pin3 to Pin1 or Pin2; $I_{PP}=17\text{A}$		19		
Junction capacitance	C_O	$V_R=0\text{V}$; $f=1\text{MHz}$		55		pF

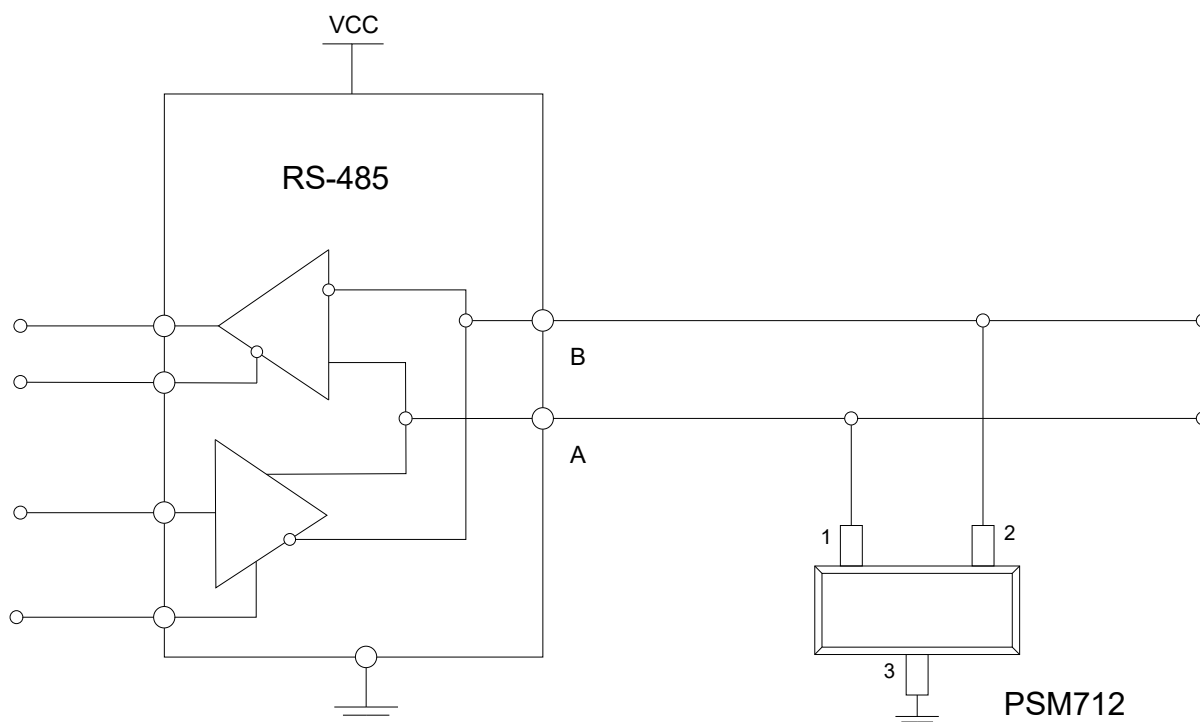


Typical Characteristics

Non-repetitive peak pulse power vs. pulse time



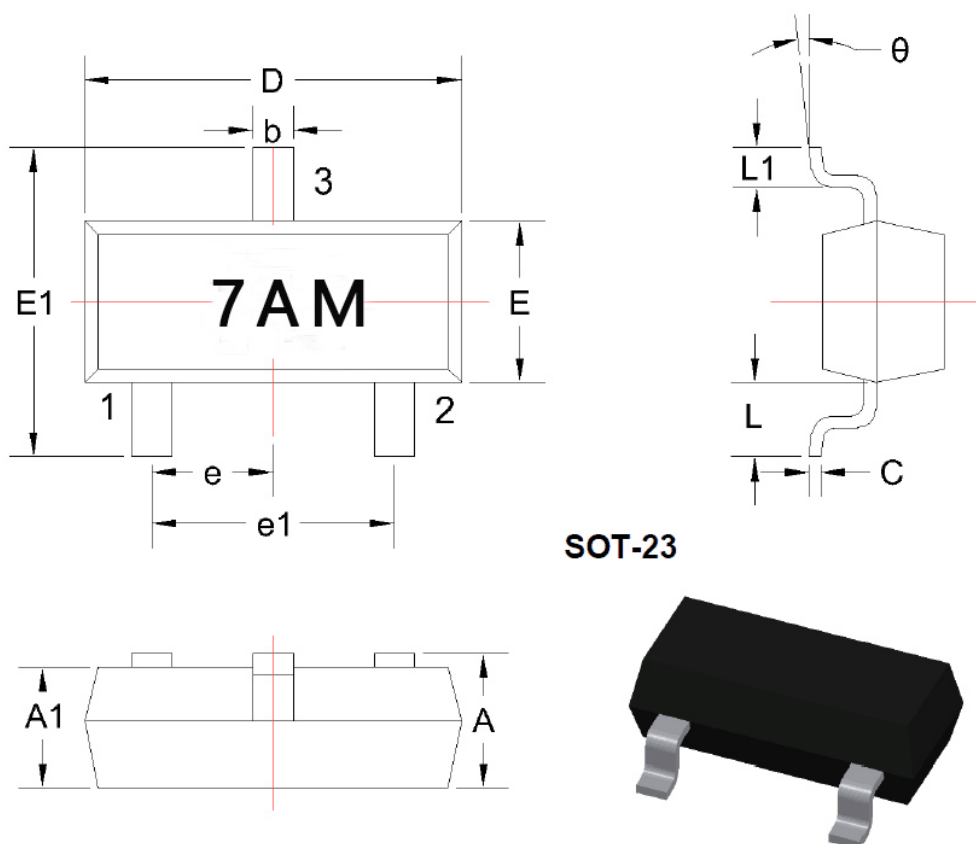
Typical Application



Typical RS-485 Interface Application



SOT-23 Outline Drawing



SOT-23

Dimensions in Millimeters					
Symbol	Min.	Max.	Symbol	Min.	Max.
A	0.9	1.15	e1	1.80	2.00
A1	0.00	0.10	L	0.55REF	
b	0.30	0.50	L1	0.30	0.50
C	0.08	0.15	θ	0°	8°
D	2.80	3.00			
E	1.20	1.40			
E1	2.25	2.55			
e	0.95TYP				