

SOT-23 Plastic-Encapsulate ESD Protection Diodes

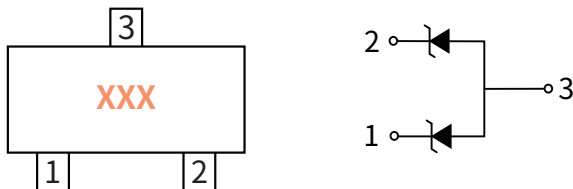
Features

- Low leakage current
- SOT-23 surface mount package
- IEC 61000-4-2 (ESD Air): ±15kV
- IEC 61000-4-2 (ESD Contact): ±8kV
- 350 Watts Peak Pulse Power per (tp=8/20us)

Applications

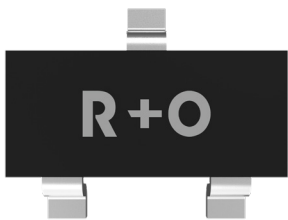
- Cellular Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants
- Notebooks, Desktops, and Servers
- Portable Instrumentation,Networking and Telecom
- Peripherals, Serial and Parallel Ports

Function Diagram



Reverse Working Voltage
3.3 to 36V Max.
Normal capacitance
450 to 60 pF(Max.)

SOT-23

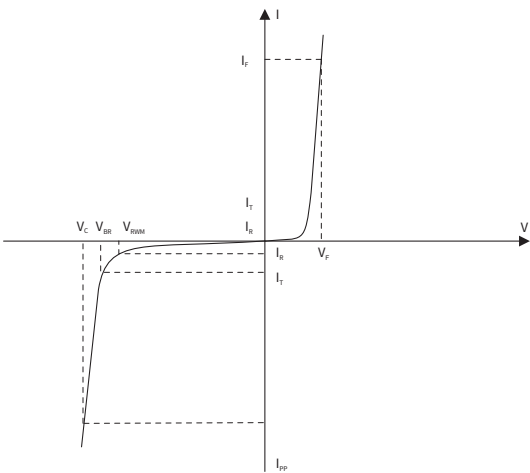


Maximum Ratings (Ta=25°C Unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{ESD}	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2(Air)	±15	KV
		ESD per IEC 61000-4-2(Contact)	±8	KV
P _{PP}	Peak Pulse Power	tp = 8/20 μs	350	W
V _F	Forward Voltage@100mA, s00us-square wave (Applies to unidirectional pins only)	—	1.5	V
T _J	Operating JunctionTemperature Range	—	-55 to +125	°C
T _{STG}	Operating JunctionTemperature Range	—	-55 to +125	°C

Electrical Parameter

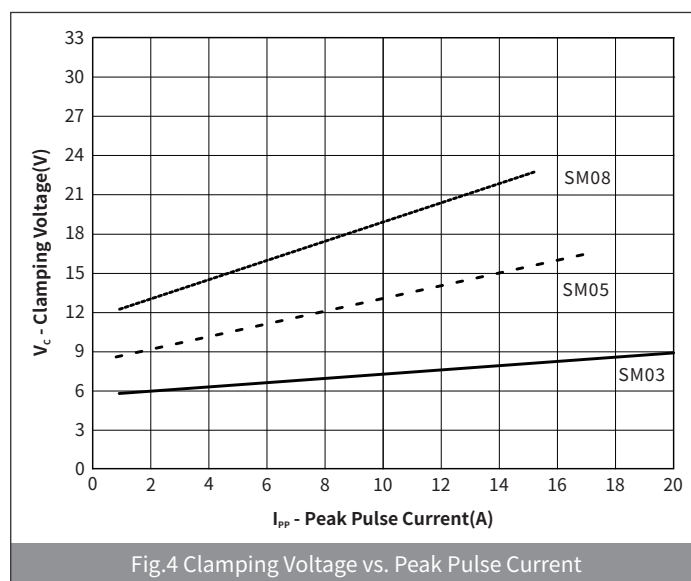
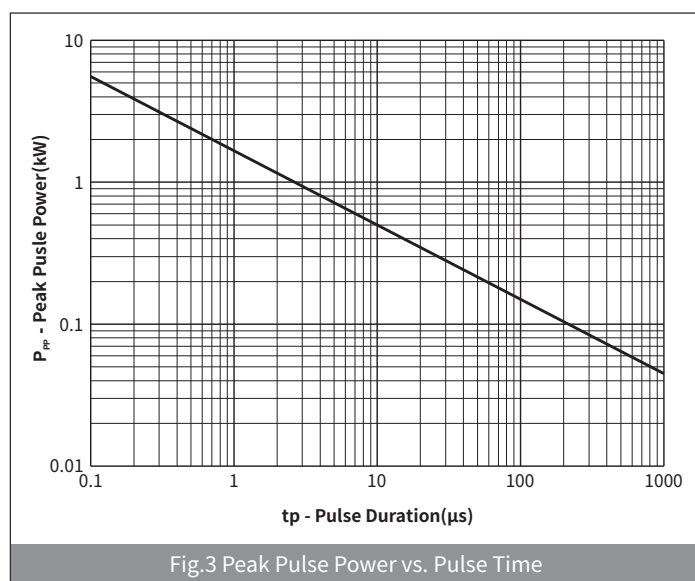
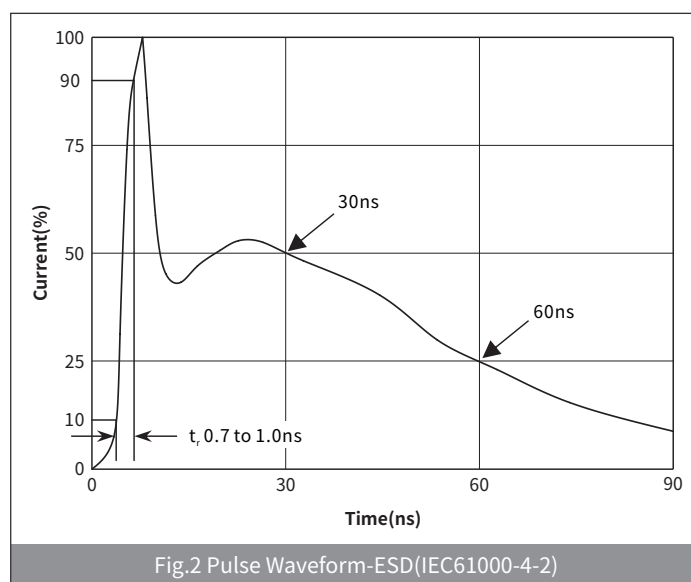
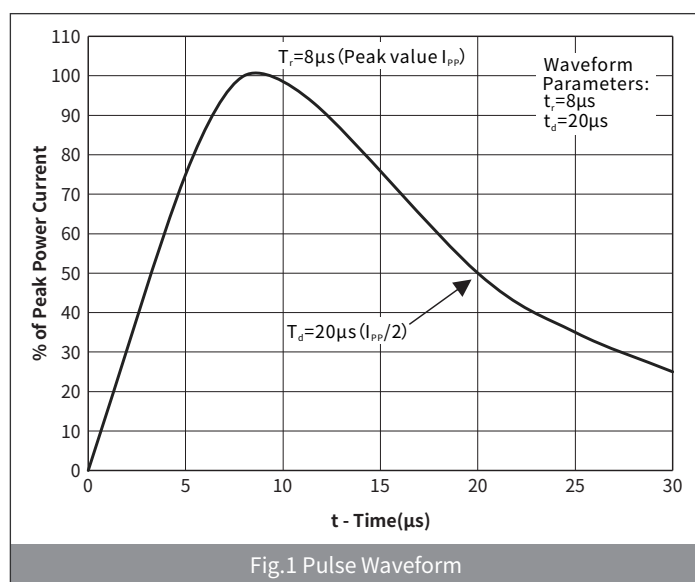
SYMBOL	PARAMETER
V _C	Clamping Voltage @ I _{pp}
V _{BR}	Breakdown Voltage @ I _T
I _{PP}	Peak Pulse Current
I _T	Test Current
I _R	Reverse Leakage Current @ VRWM
V _{RWM}	Peak Reverse Working Voltage
P _{PP}	Peak Pulse Power Dissipation
C _J	Junction Capacitance @ V _R =0V,f=1MHz
I _F	Forward Current
V _F	Forward Voltage @I _F



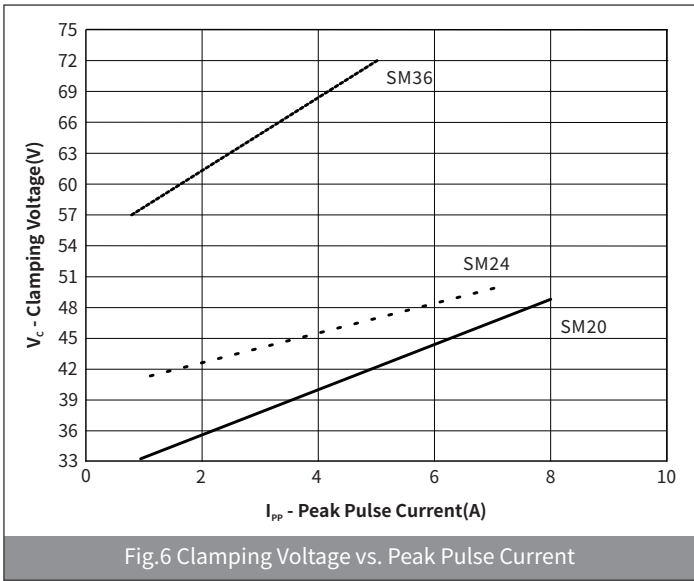
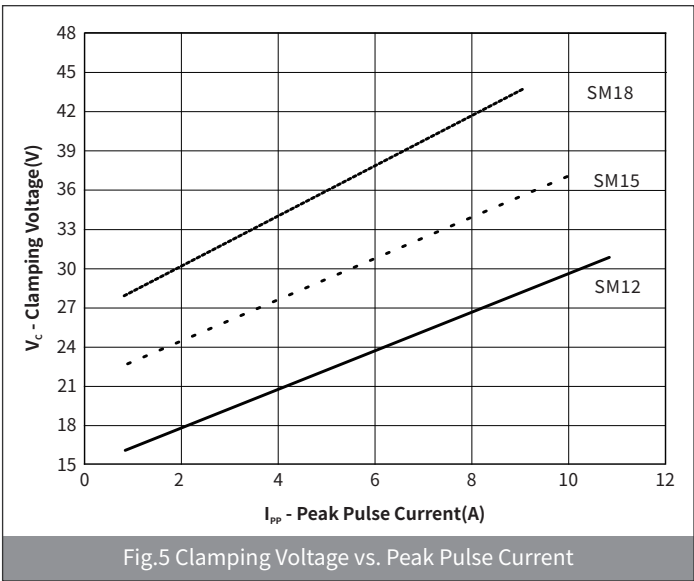
● Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	Marking	$V_{RWM}(V)(Max.)$	$V_B(V)(Min.)$	$I_T(mA)$	$V_C@1A(V)(Max.)$	$V_C(V)(Max.)@I_{PP}(A)$	$I_R(\mu A)(Max.)$	$C_T(pF)(ax.)$
SM03	M03	3.3	4	1	7	10.5	20	450
SM05	M05	5	6	1	9.8	18	17	300
SM08	M08	8	8.5	1	13.4	24	15	240
SM12	M12	12	13.3	1	19	32	11	130
SM15	M15	15	16.7	1	24	38	10	120
SM18	M18	18	20	1	29	45	9	100
SM20	M20	20	22.3	1	35	50	8	90
SM24	M24	24	26.7	1	43	52	7	80
SM36	M36	36	40	1	60	75	5	60

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



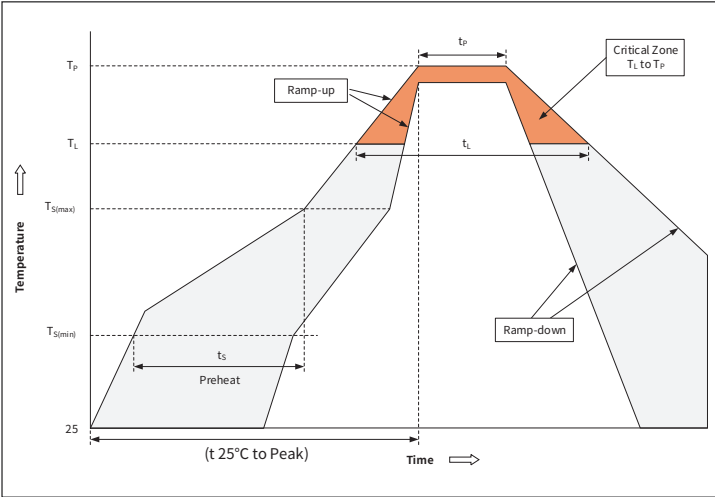
● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



● Ordering Information

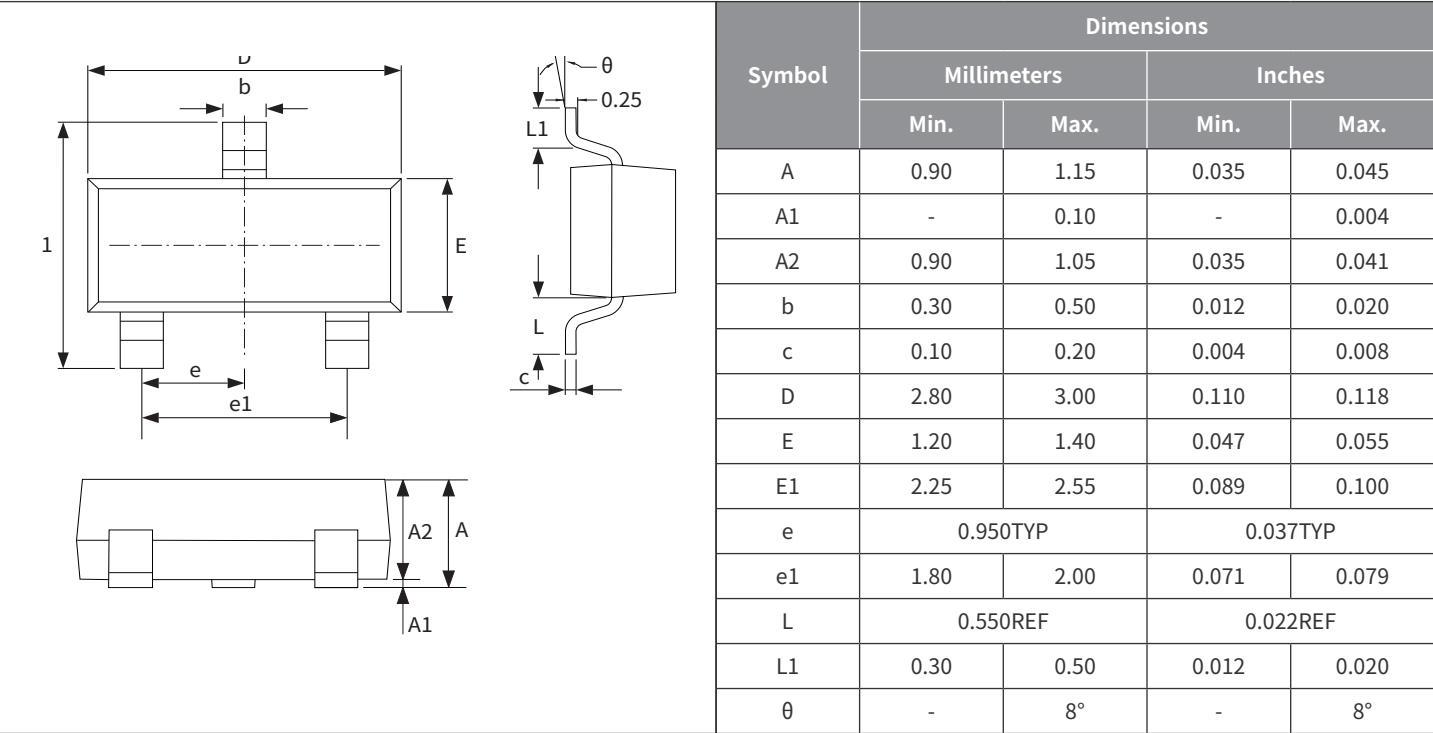
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

● Recommended Soldering Conditions



Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min (Ts(min))	+150°C
	Temperature Max(Ts(max))	+200°C
	Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C /sec. Max
Ts(max) to TL - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature(TL)(Liquid us)	+217°C
	Temperature(tL)	60-150 secs.
Peak Temp (TP)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		20-40secs
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

● Package Outline Dimensions (SOT-23)



● Suggested Pad Layout

