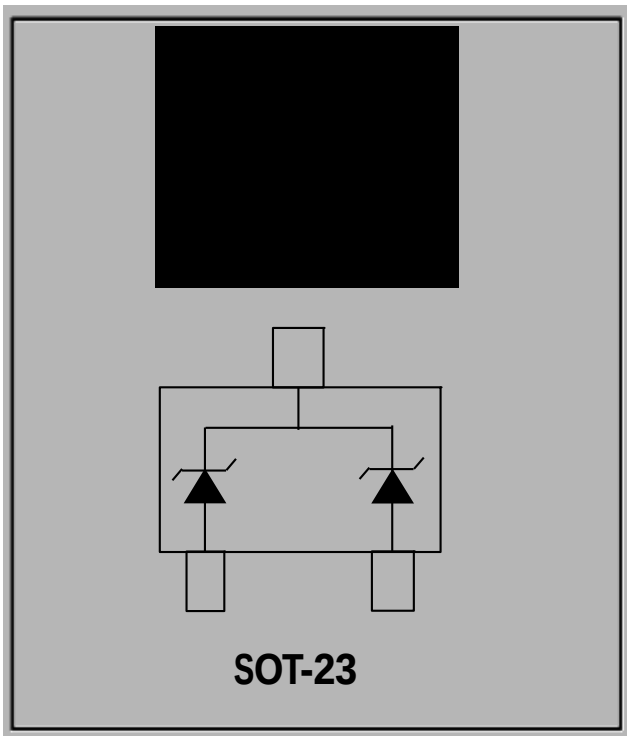
2- Line, Uni-directional, ESD protection diode



Features

- Transient protection for each line according to
  IEC61000-4-2(ESD):
  IEC61000-4-5:10
- Low leakage current
- Ultra low clamping voltage
- RoHS Compliant
- Part no. with suffix “Q” means AEC-Q101 qualified

Applications

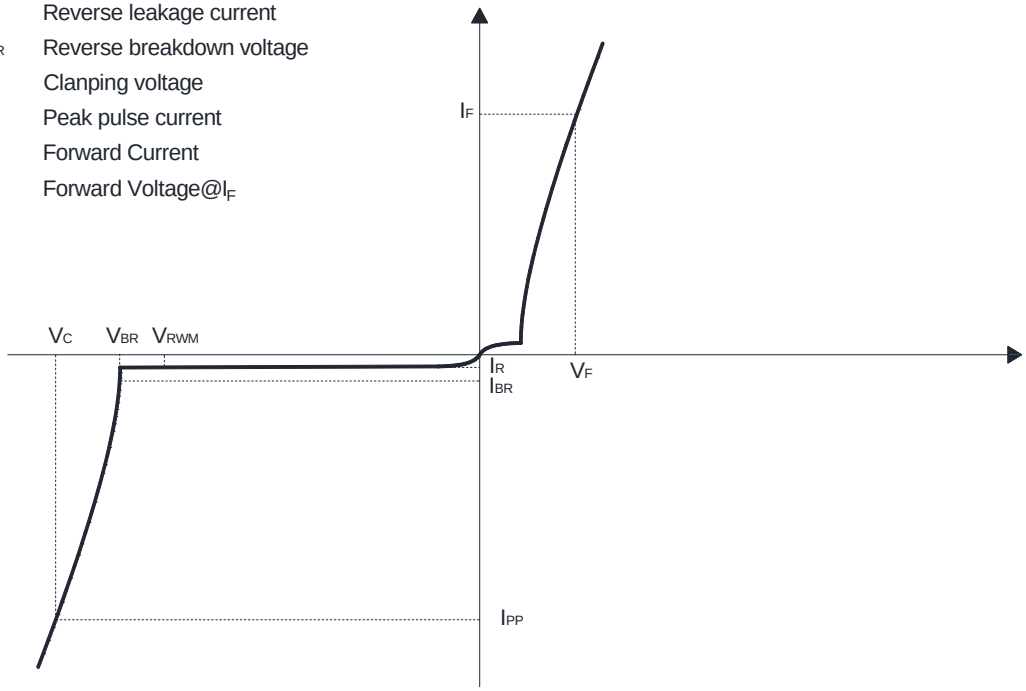
-
-
-
-
-
-
-
-

Mechanical Data

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020

■Definitions of electrical characteristics

V_{RWM}	Reverse stand-off voltage
I_R	Reverse leakage current
V_{BR}	Reverse breakdown voltage
V_C	Clanping voltage
I_{PP}	Peak pulse current
I_F	Forward Current
V_F	Forward Voltage@I_F



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	280	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T_J	-55~150	
Storage temperature	T_{STG}	-55~150	

Notes:

CAUTION: Stresses above those listed in “Absolute Maximum Ratings” may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

■Electrical Characteristics（T_J=25℃）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	V_{RWM}	V	I_R≤1μA			12
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	13.1		16.5
Reverse leakage current	I_R	μA	V_{RWM} = 12V			1.0
Forward Voltage	V_F	V	I_F=10mA			1.1
Clamping voltage 1)	V_C	V	I_{PP} = 1A, t_p = 8/20μs			18.5
			I_{PP} = 10A, t_p = 8/20μs			28
Dynamic resistance 2)	R_{DYN}	Ω	TLP, tp=100ns, I/O to Ground		0.18	
	I_{PP}	A	t_p = 8/20μs			10
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		55	70

Notes:

(1). Non-repetitive current pulse, according to IEC61000-4-5.

(2). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD1202ETQ	F2	Approximate 10	3000	30000	120000	7 reel

■ Characteristics (Typical)

Fig.1: Non-Repetitive Peak Pulse Power vs. Pulse Time

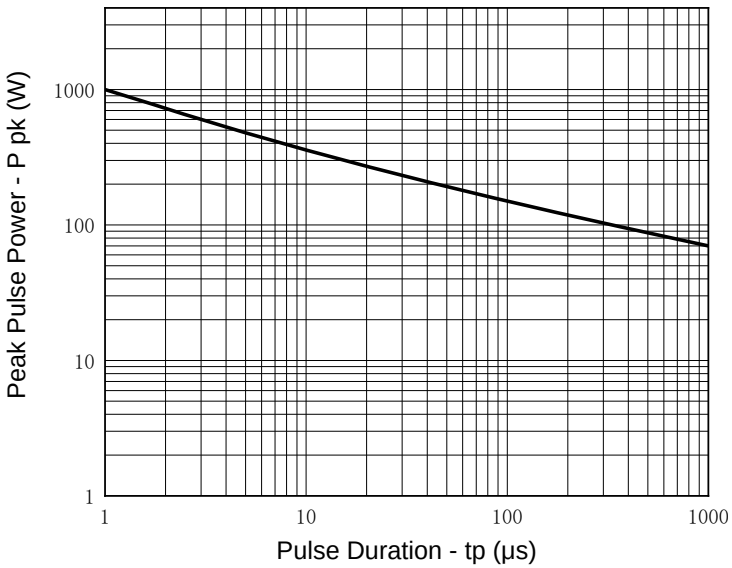


Fig.2: Capacitance vs. Bias

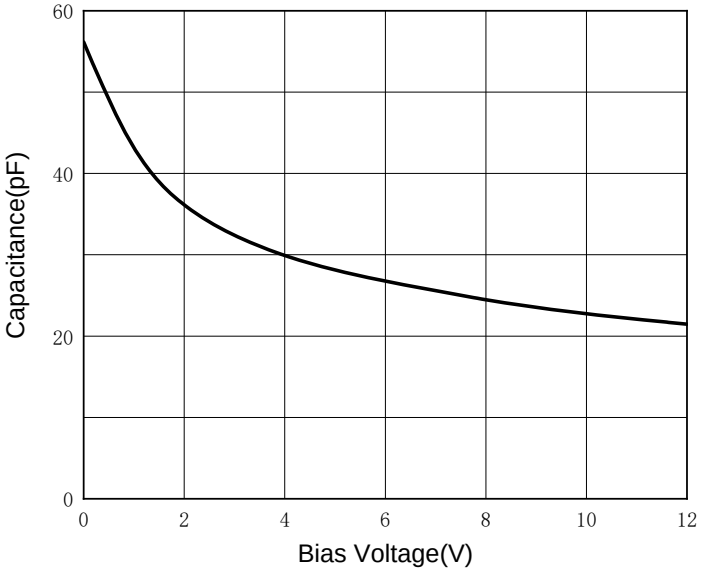


Fig.3: Power Derating Curve

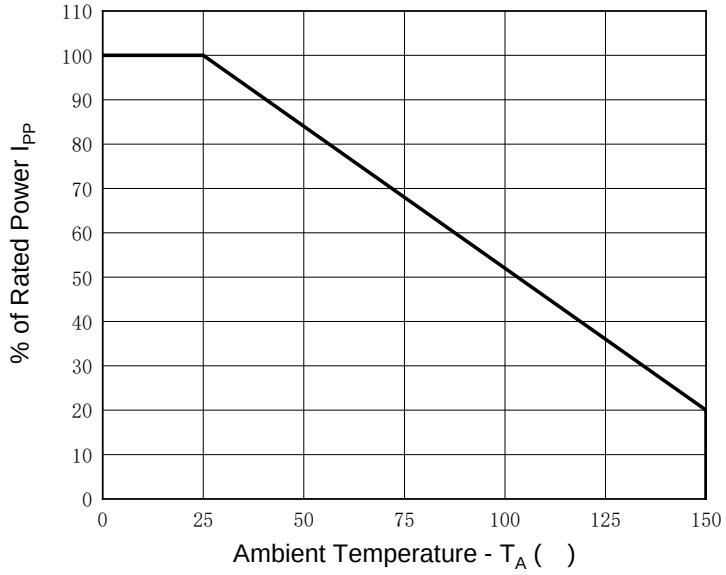
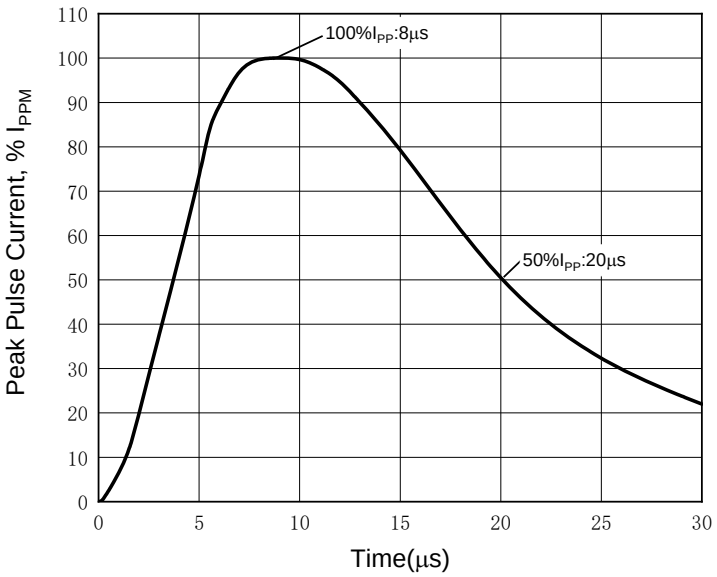
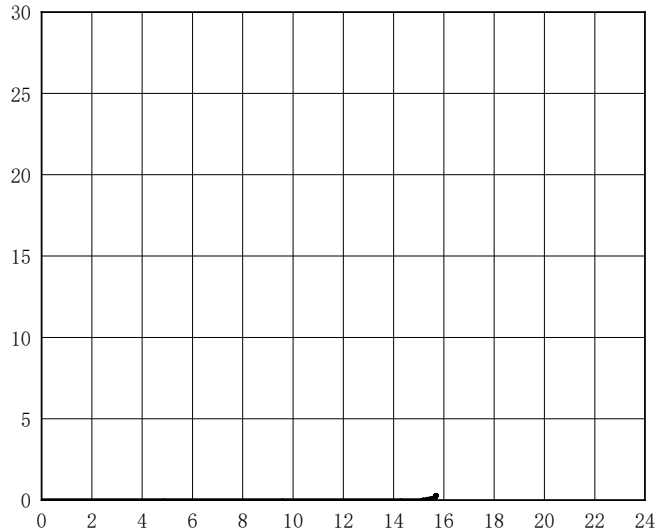
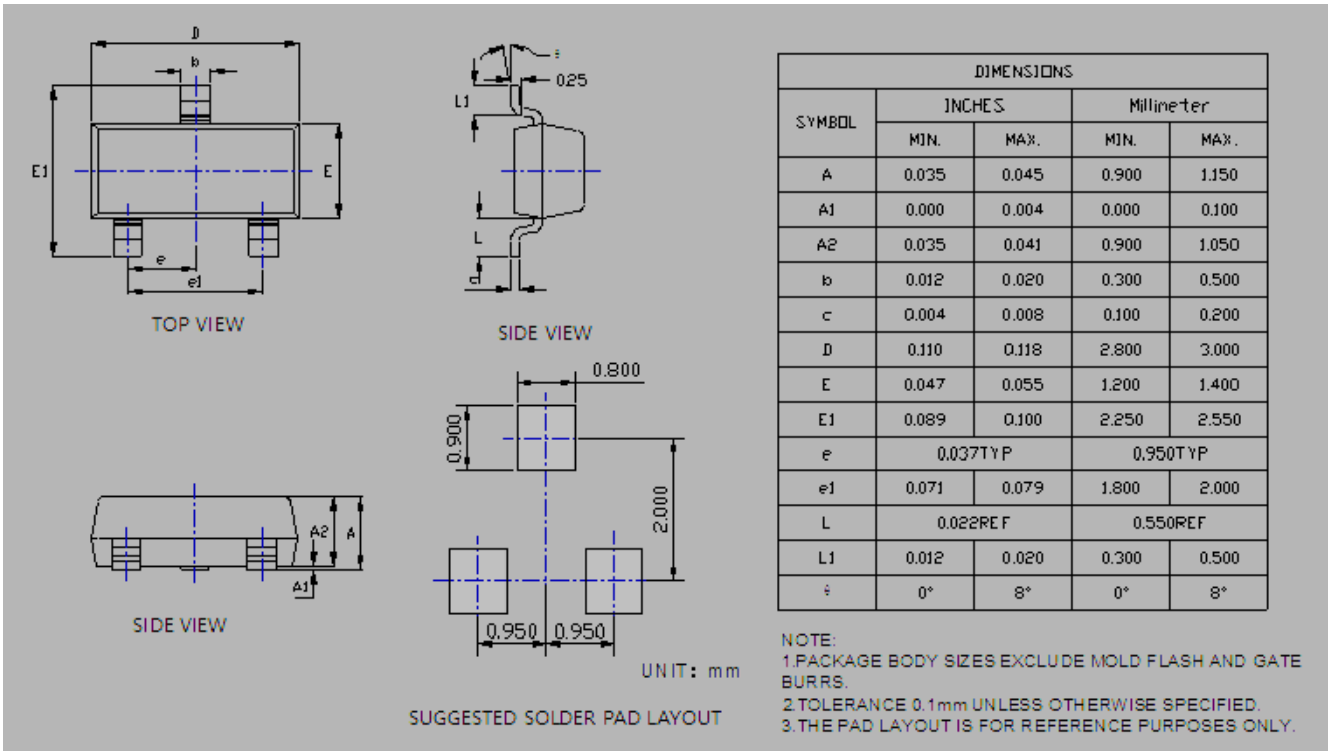


Fig.4: 8/20μs Pulse Waveform





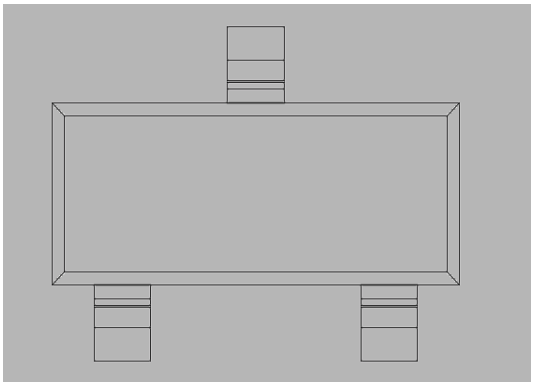
■ Outline Dimensions



DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

■ Marking Information



Note:
1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics，are not designed for use in medical, life-saving, lifesustaining,or military,Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting fro m such improper use of sale.

Th ŗ M ⌣ hÓ r ṅ ɒ ئي } ɒ ɓ l £ j ɤ id ⁎ ^ B on y d d ʊ ⁿ