DESCRIPTION

The NUP2105-Q is available in SOT-23 package.

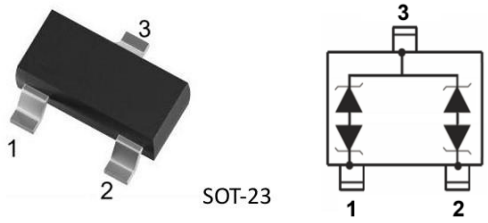
FEATURE

- Ultra-low leakage: nA level.
- Low clamping voltage
- Complies with IEC 61000-4-2 standards:
  -Air discharge: ±30kV
  -Contact discharge: ±30Kv
- AEC-Q101 Qualified.

APPLICATIONS

- CAN bus protection
- Automotive applications

PIN DESCRIPTION



ORDERING INFORMATION

Package Type	Part Number
SOT-23	NUP2105-Q
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

ABSOLUTE MAXIMUM RATINGS T_A = 25°C, unless otherwise specified.

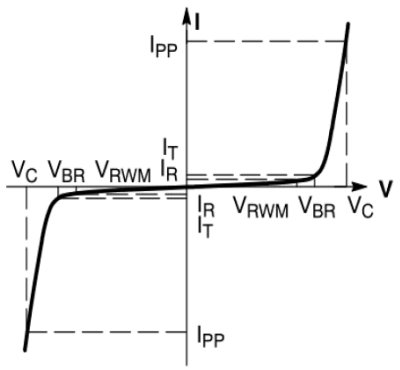
IEC 61000−4−2 (ESD)	Contact	±30kV
	Air	±30kV
PPP, Peak Pulse Power@8/20 μs		350W
IPP, Peak Pulse Current @8/20 μs		8A
T_J, Operating Temperature Range		-55°C ~ +150°C
T_{STG}, Storage Temperature Range		-55°C ~ +150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A=25℃ unless otherwise specified.

Symbols	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ IPP
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ VRWM
V_{BR}	Breakdown Voltage @ IT
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ IF
Ppk	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1MHz



Parameter		Symbol	Min	Typ	Max	Unit
VRWM, Reverse Stand-Off Voltage		V_{RWM}	-	-	24	V
Reverse Leakage Current	V_{RWM} = 24 V, Pin 1、2 to Pin 3	I_{RM}	-	-	200	nA
	V_{RWM} = 24 V, Pin 3 to Pin 1、2		-	-	200	
Breakdown Voltage	I_T = 5 mA, Pin 1、2 to Pin 3	V_{BR}	26.2	-	32	V
	I_T = 5 mA, Pin 3 to Pin 12					
Clamping Voltage	I_{PP} = 3A (8 x 20μs pulse)	V_C	-	32	34	V
	I_{PP} = 5A (8 x 20μs pulse)		-	34	36	
	I_{PP} = 8A (8 x 20μs pulse)		-	37	39	
Junction Capacitance	VR = 0V, f = 1MHz	C_J	-	-	30	pF

TYPICAL CHARACTERISTICS

Fig 1. IPP vs. VC

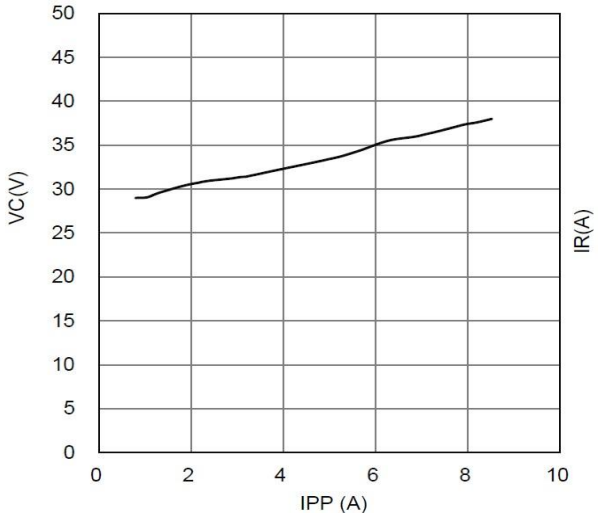


Fig 2. IR vs. VR

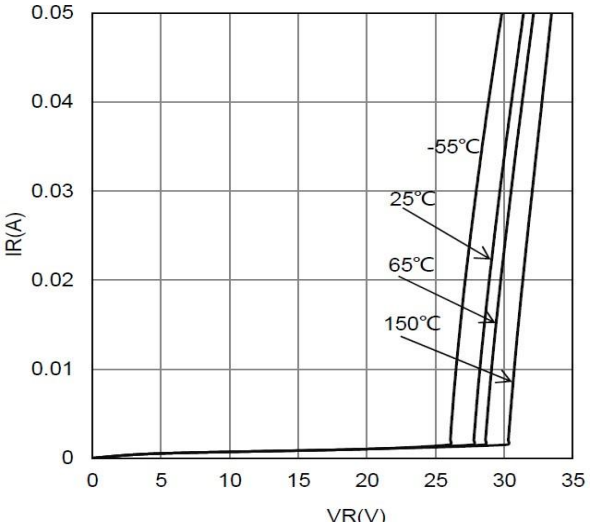


Fig 3. CT vs. VR

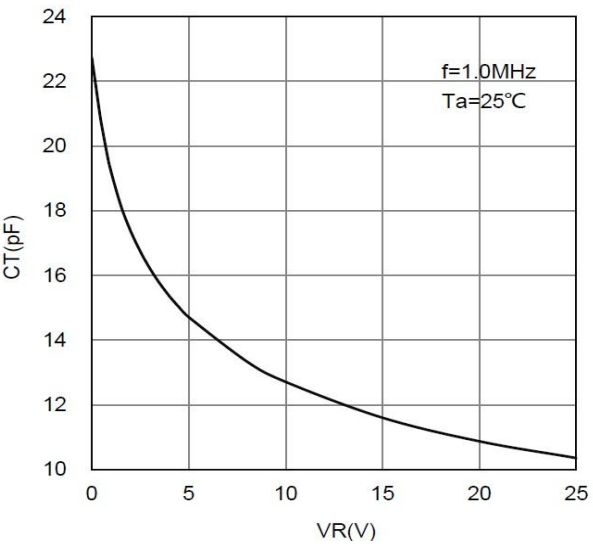
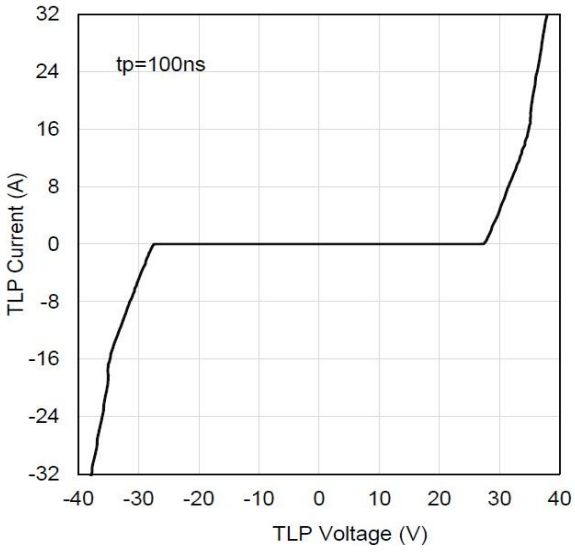
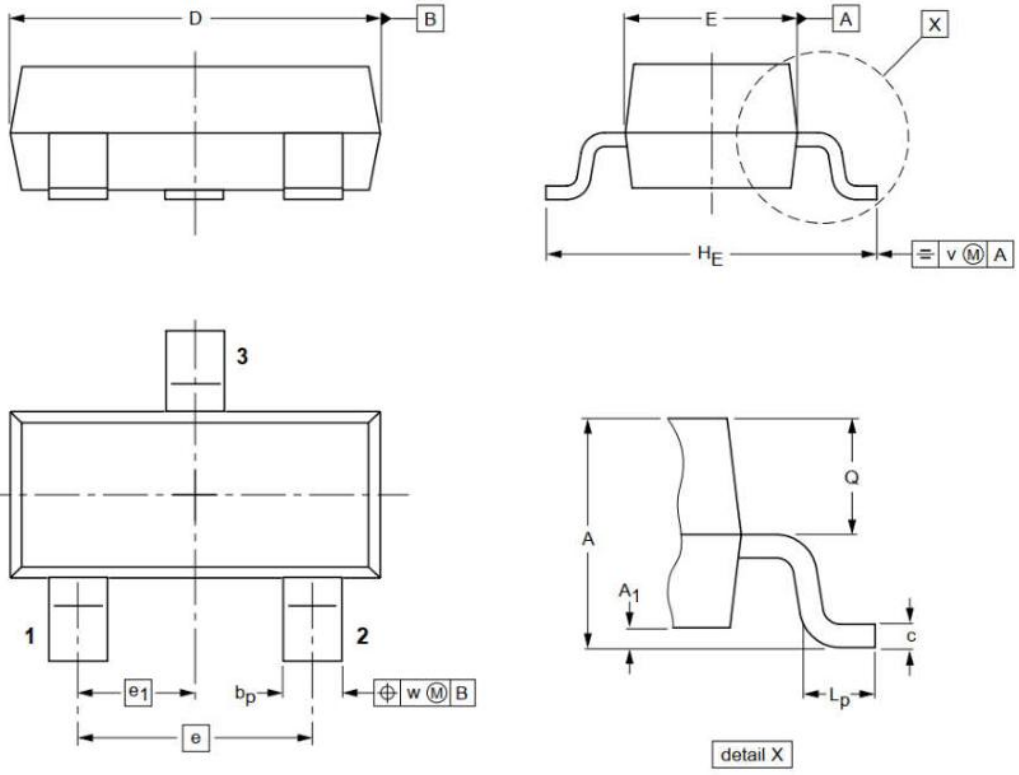


Fig 4. TLP Measure sent

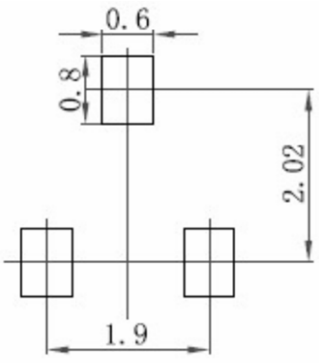


PACKAGE INFORMATION

Dimension in SOT-23 (Unit: mm)



SYMBOL	MIN	MAX
A	0.900	1.150
A1	0.100	
bp	0.380	0.480
C	0.090	0.150
D	2.800	3.000
E	1.200	1.400
E	1.900	
E1	0.950	
H_E	2.100	2.550
Lp	0.150	0.450
Q	0.450	0.550
V	0.200	
W	0.100	



The recommended mounting pad size

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