

### Features

- Ultra low leakage: nA level
- Operating voltage: 7V or 12V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±15kV
    - Contact discharge: ±8kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 12A (8/20μs)
- RoHS Compliant
- Compliant to Halogen - free
- Suffix "-Q1" for AEC-Q101

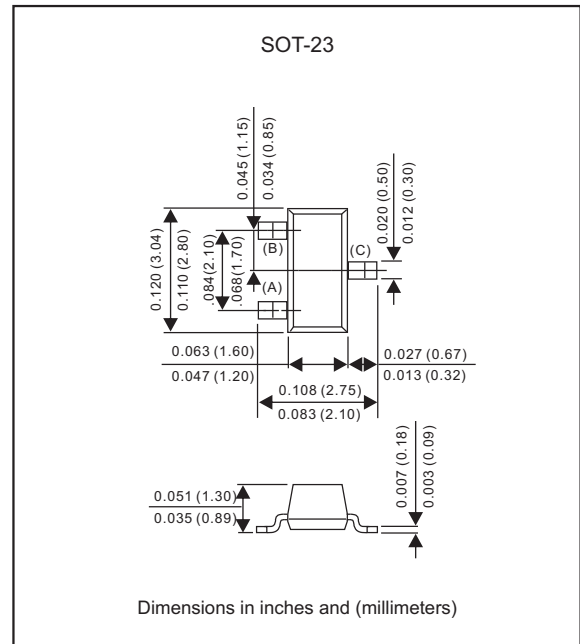
### Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

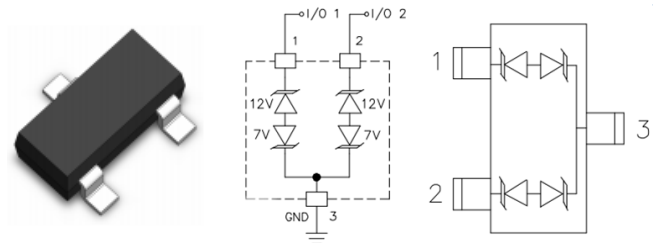
### Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0

### Package outline



### Pin Configuration



### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

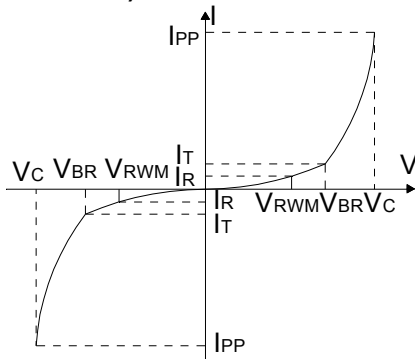
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P <sub>pp</sub>	400	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	± 15	Kv
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	°C

### Electrical Characteristics (TA=25°C unless otherwise specified)

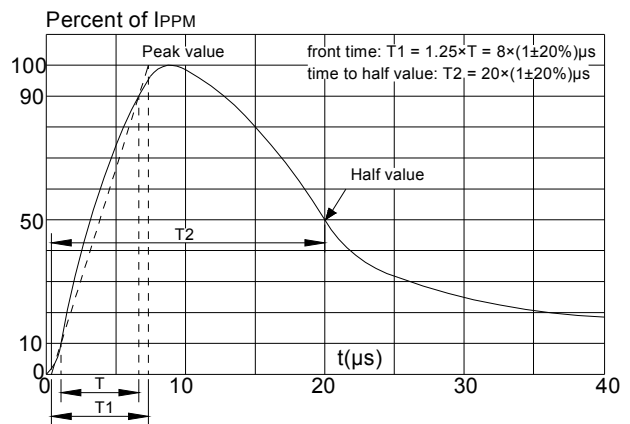
Part Number	Device Marking		V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> @5A	V <sub>C</sub>		I <sub>R</sub> μA (Max)	C (Pf) (Typ.)
							(Max)	(@A)		
SM712-Q1	7AM	Pin 3 to Pin 1/Pin 2	7	7.5	1	12	18	12	1	45
		Pin 1 / Pin 2 to Pin 3	12	13.3	1	20	26	12	1	45

### Characteristic Curves

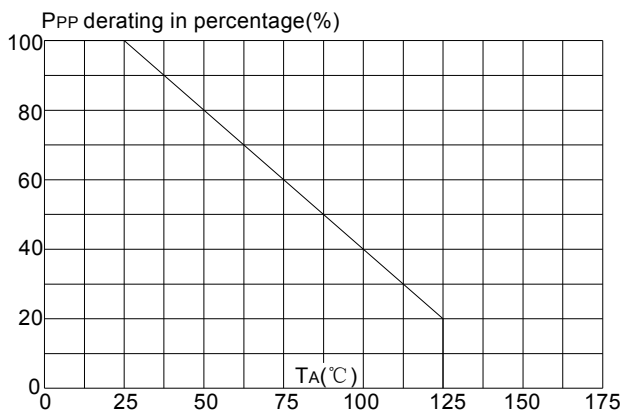
**FIG.1: V- I curve characteristics (Bi-directional)**



**FIG.2: Pulse waveform (8/20μs)**



**FIG.3: Pulse derating curve**



**FIG.4: ESD clamping (8KV contact)**

