

UNS2K40CA

ROHS

Surface Mount Transient Voltage Suppressor

Description

The UNS is designed for DC power supply equipment in outdoor exposure environment. It is used to replace the traditional PTC, GDT and TVS combination solution, which is widely used to DC24V、DC12V port.etc
Working Voltage: 40V

Features

- ◆ Glass passivated junction
- ◆ Excellent clamping capability
- ◆ Repetitive rate (duty cycle):0.01%
- ◆ Low profile package and low inductance
- ◆ 2000A Peak Pulse power capability at 8/20us waveform
- ◆ Fast response time: typically less than 1.0ps from 0V to VBR min
- ◆ High temperature soldering:260°C/40s at terminals
- ◆ For surface mounted application in order to optimize board space
- ◆ Plastic package has Underwriters Laboratory Flammability 94V-0
- ◆ Halogen free and RoHS compliant
- ◆ IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
- ◆ ESD protection of data lines in accordance with IEC 61000-4-2
- ◆ EFT protection of data lines in accordance with IEC 61000-4-4

Applications

TVS devices are ideal for the protection of I/O interfaces, Vcc bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

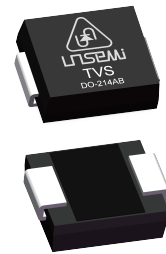
Maximum Ratings and Thermal Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse current with at 1.2/50μs-8/20μs@2Ω waveform	I _{PP}	2000	A
Steady state power dissipation at T _L =75°C	P _D	6.5	W
Junction and storage temperature range	T _J , T _{STG}	- 55 to +150	°C
Operating temperature range	T _{OP}	- 55 to +125	°C

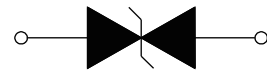


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Bi-directional



Functional Diagram



Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Part Number	Marking	Reverse Stand-Off Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} (V) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_c @ I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage IR @ V_{RWM} (μ A)
			MIN	MAX				
UNS2K40CA	2K40CA	40	44.40	49.10	1	75	2000	1

NOTE1: Surge waveform: 1.2/50 μ s-8/20 μ s@2 Ω waveform

V_R : Stand-off Voltage -- Maximum voltage that can be applied

V_{BR} : Breakdown Voltage

V_c : Clamping Voltage -- Peak voltage measured across the suppressor at a specified I_{PP}

IR: Reverse Leakage Current

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Figure 1 - Pulse Waveform

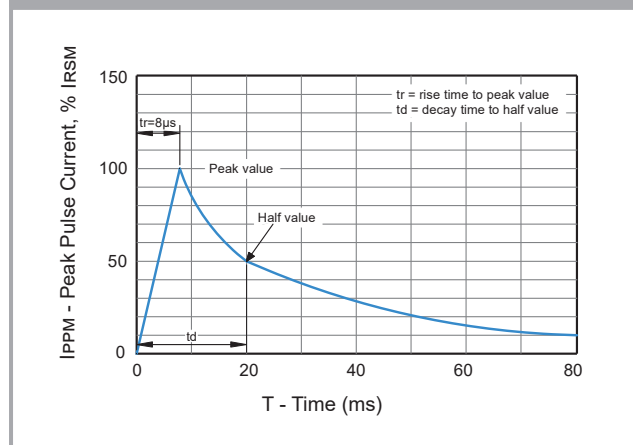


Figure 2 - Pulse Derating Curve

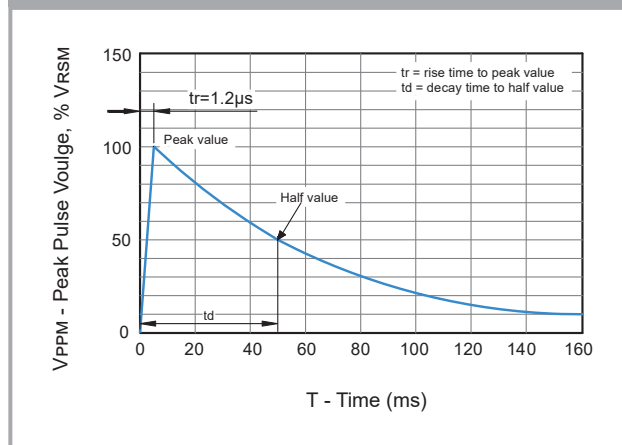
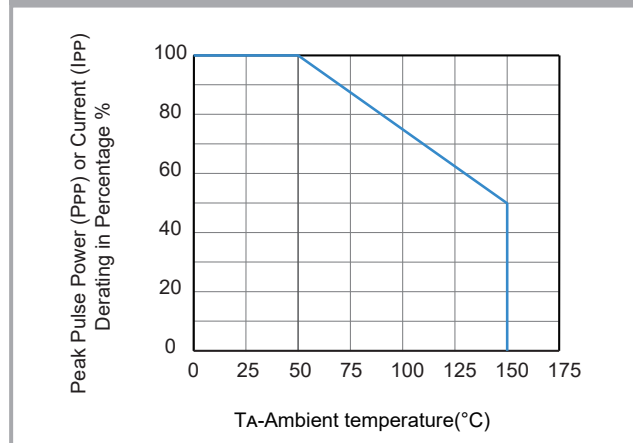
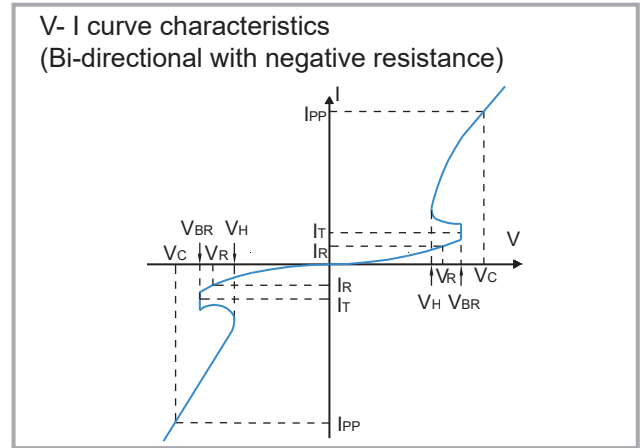
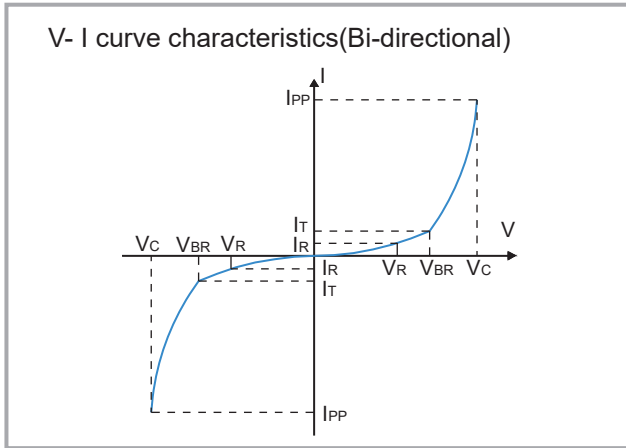


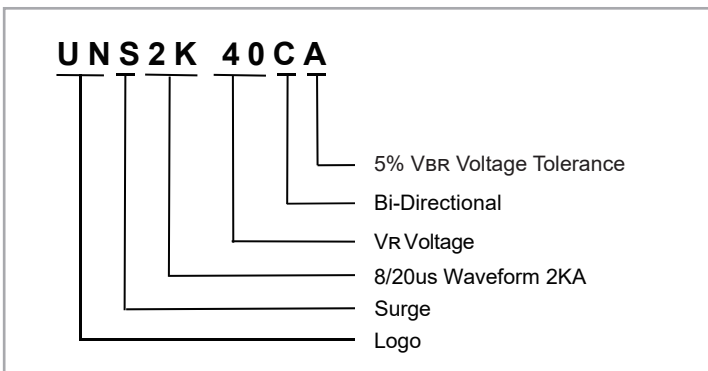
Figure 3 - Pulse Derating Curve



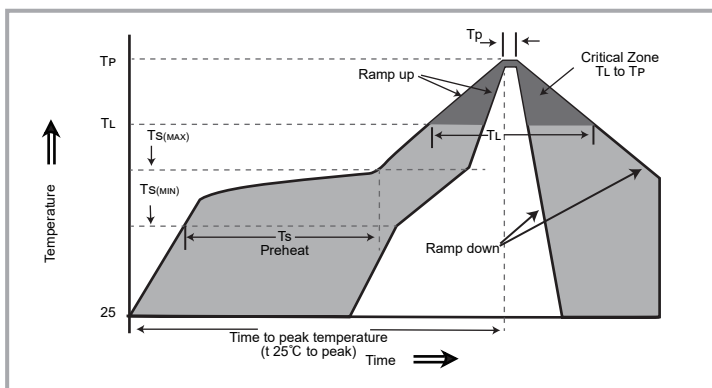
I-V Curve Characteristics



Part Numbering

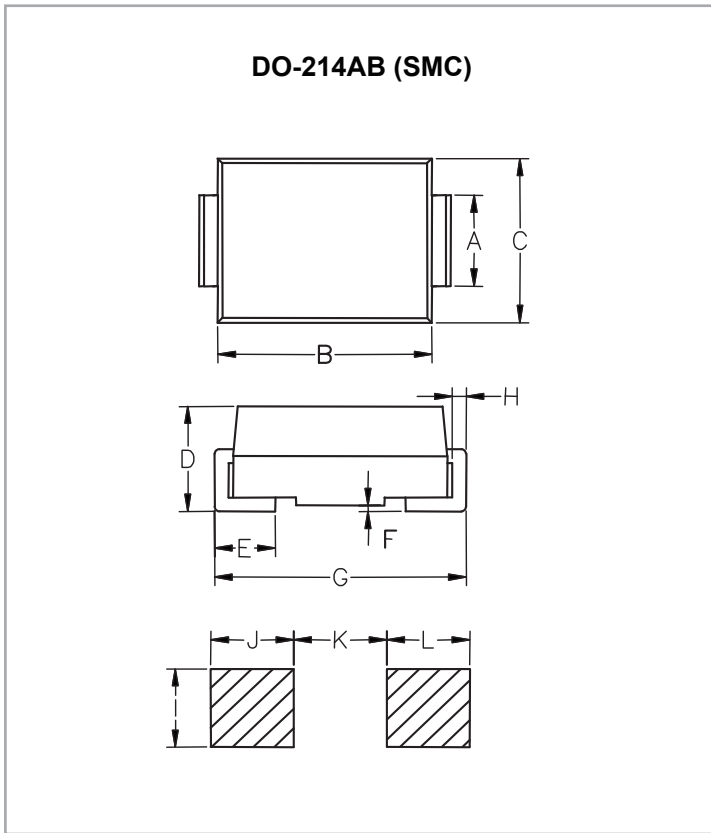


Soldering Parameters



Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min (Ts(min))	150°C
	- Temperature Max (Ts(max))	200°C
	- Time (min to max) (Ts)	60 -180 Seconds
Average ramp up rate (Liquidus Temp TL) to peak		3°C/second max
Ts(max) to TL - Ramp-up Rate		5°C/second max
Reflow	- Temperature (TL) (Liquidus)	217°C
	- Time (min to max) (Ts)	60 -150 Seconds
Peak Temperature (TP)		260 +0/-5°C
Time within 5°C of actual peak Temperature (TP)		20-40 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max
Do not exceed		260°C

Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.114	0.126	2.86	3.160
B	0.260	0.280	6.520	7.020
C	0.220	0.245	5.520	6.150
D	0.079	0.103	1.980	2.590
E	0.030	0.060	0.750	1.510
F	-	0.008	-	0.203
G	0.305	0.320	7.640	8.020
H	0.006	0.012	0.152	0.305
I	0.129	-	3.300	-
J	0.094	-	2.400	-
K	-	0.165	-	4.200
L	0.094	-	2.400	-

Ordering Information

Part Number	Component Package	Quantity	TAPE & REEL
UNS2K40CA	DO-214AB(SMC)	3,000 pcs	13inch

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