



TCP135K2

DUAL ASYMMETRICAL TRANSIENT SUPPRESSOR

PRODUCT PREVIEW

DESCRIPTION

This Thyristor Surge Suppressor Device is intended for protection of line card inputs. It provides most efficient polarity-dependent asymmetrical surge protection with negative protection voltage higher than positive.

IMPORTANT: For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

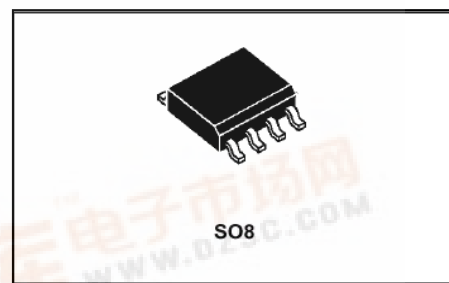
KEY FEATURES

- DUAL POLARITY-DEPENDENT ASYMMETRICAL TRANSIENT SUPPRESSOR
- PEAK CURRENT:
 $I_{pp} = 2 \times 25 \text{ A } 10/1000 \mu\text{s}$
- HOLDING CURRENT I_H :
110 mA MIN
- BREAKOVER VOLTAGE:
-250 V, +200 V

COMPLIES WITH THE FOLLOWING STANDARDS:

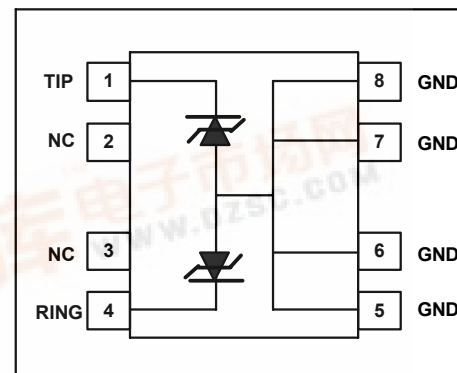
CCITT K20:	10/700 μs	1 kV
	5/310 μs	38 A
VDE 0433:	10/700 μs	2 kV
	5/310 μs	50 A
VDE 0878:	1.2/50 μs	1.5 kV
	1/20 μs	40 A
RLM-88	0.5/700 μs	1 Kv
	0.2/310 μs	38 A
FCC part 68:	2/10 μs	2.5 kv
	2/10 μs	125 A (*)
BELLCORE		
TR-NWT-001089:	2/10 μs	2.5 kv
	2/10 μs	125 A (*)
	10/1000 μs	1 kV
	10/1000 μs	40 A (*)

APPLICATIONS/BENEFITS



UL94V-0 TCPxx packages comply with requirements of UL94V-0

SCHEMATIC DIAGRAM



(*) with series resistors or PTC.



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ABSOLUTE LIMITING VALUES

Symbol	Parameter	Conditions	Value	Unit
I_{TSP}	Non-repetitive on-state peak pulse current	0.3/300 μ s RLM-88	+/- 2 X 20	A
I_{TSM}	Non-repetitive on-state RMS current	50/60 Hz AC 0.2 s	4.6	A
		50/60 Hz AC 5 s	1.0	A
		50/60 Hz AC 900 s	0.35	A
T_J	Junction temperature range		-40 +150	C
T_{stg}	Storage temperature range		-40 +150	C

ELECTRICAL CHARACTERISTICS ($T_J = 0 - 70^\circ\text{C}$)

Parameter	V_{DRM}		I_{DRM}		I_H		I_{BO}		V_{BO}		C_p	Notes
	V		μ A		mA		mA		V		pF	
Terminal	max	min	max	min	max	min	max	min	max	min	max	
Tip-Ground	+131	-183	+10	-10	+110	-110	+110	-110	+145	-195	100	1, 2
Ring-Ground	+131	-183	+10	-10	+110	-110	+110	-110	+145	-195	100	1, 2

 Notes: 1. V_{BO} and I_{BO} measurement at AC 50/60 Hz

 2. C_p measurement at $V_D = -60\text{ V} - 0\text{ V}$, $V_{AC} = 100\text{ mV}$, $f_{AC} = 100\text{ KHz}$
IMPULSE BREAKDOWN VOLTAGE CHARACTERISTIC VALUES

Terminal	Tip-Ground		Ring-Ground		Test Condition
Temperature	V		V		
	min	max	min	max	
T _J = 0°C	-250	+198	-250	+198	0.3/300 μs ± 2 X 2 A per RLM - 88
T _J = 25°C	-254	+202	-254	+202	
T _J = 70°C	-261	+209	-261	+209	



SANTA ANA DIVISION

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www.Microsemi.com

NOTES

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.