

**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>

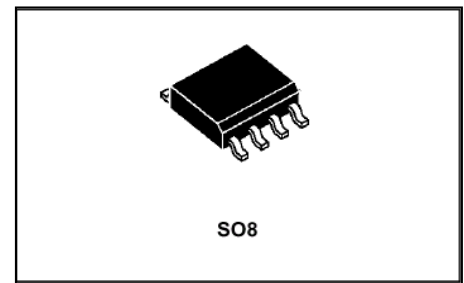
**KEY FEATURES**

- 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 $\mu\text{s}$	1 kV
	5/310 $\mu\text{s}$	38 A
VDE 0433:	10/700 $\mu\text{s}$	2 kV
	5/310 $\mu\text{s}$	50 A
VDE 0878:	1.2/50 $\mu\text{s}$	1.5 kV
	1/20 $\mu\text{s}$	40 A
RLM-88	0.5/700 $\mu\text{s}$	1 Kv
	0.2/310 $\mu\text{s}$	38 A
FCC part 68:	2/10 $\mu\text{s}$	2.5 kv
	2/10 $\mu\text{s}$	125 A (*)
BELLCORE		
TR-NWT-001089:	2/10 $\mu\text{s}$	2.5 kv
	2/10 $\mu\text{s}$	125 A (*)
	10/1000 $\mu\text{s}$	1 kV
	10/1000 $\mu\text{s}$	40 A (*)

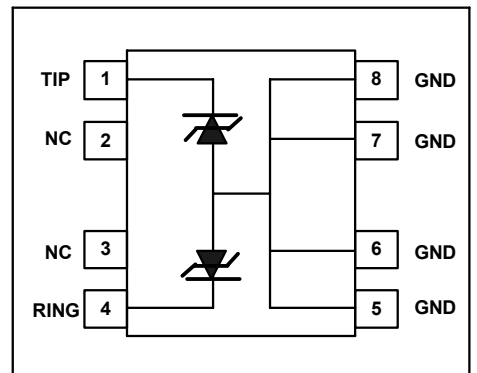
**APPLICATIONS/BENEFITS**



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

(\*) with series resistors or PTC.

**SCHEMATIC DIAGRAM**



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**ABSOLUTE LIMITING VALUES**

Symbol	Parameter	Conditions	Value	Unit
$I_{TSP}$	Non-repetitive on-state peak pulse current	0.3/300 $\mu$ 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		$\mu$ A		mA		mA		V			
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
	V		V		
Temperature	min	max	min	max	
$T_J = 0^\circ\text{C}$	-250	+198	-250	+198	0.3/300 $\mu$ s
$T_J = 25^\circ\text{C}$	-254	+202	-254	+202	$\pm 2\text{ X } 2\text{ A}$
$T_J = 70^\circ\text{C}$	-261	+209	-261	+209	per RLM - 88



TCP135K2

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www.Microsemi.com

NOTES

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.