Microsemi
SANTA ANA DIVISION

TCP135K4

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

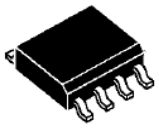
- DUAL POLARITY-DEPENDENT ASYMMETRICAL TRANSIENT SUPPRESSOR
- PEAK CURRENT: I_{PP} = 2 X 25 A 10/1000 µs
- HOLDING CURRENT IH: 110 mA MIN
- BREAKOVER VOLTAGE: -160 V, +95 V

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

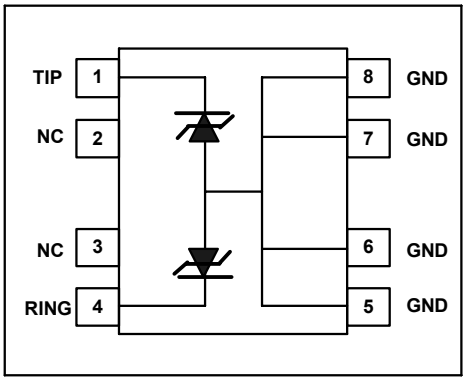
-



SO8

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

SCHEMATIC DIAGRAM



(*) with series resistors or PTC.

Microsemi
Santa Ana Division
2830 S. Fairview Street, CA. 92704, 714-979-8220, Fax: 714-557-5989

DUAL ASYMMETRICAL TRANSIENT SUPPRESSOR

PRODUCT PREVIEW

ABSOLUTE LIMITING VALUES

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

ELECTRICAL CHARACTERISTICS (T_J = O – 70°C)

Parameter	V_{DRM}		I_{DRM}		I_H		I_{BO}		V_{BO}		Cp	Notes
	V		µA		mA		mA		V		pF	
Terminal	max	min	max	min	max	min	max	min	max	min	max	
Tip-Ground	+65	-115	+10	-10	+110	-110	+110	-110	+80	-140	100	1, 2
Ring-Ground	+65	-115	+10	-10	+110	-110	+110	-110	+80	-140	100	1, 2

Notes: 1. V_{BO} and I_{BO} measurement at AC 50/60 Hz
2. Cp measurement at V_D = -60 V –0 V, V_{AC} = 100 mV, f_{AC} = 100 KHz

IMPULSE BREAKDOWN VOLTAGE CHARACTERISTIC VALUES

Terminal	Tip-Ground		Ring-Ground		Test Condition
	V		V		
Temperature	min	max	min	max	
$T_{J\ =\ 0°C}$	-155	+91	-155	+91	0.3/300 µs ± 2 X 2 A per RLM - 88
$T_{J\ =\ 25°C}$	-158	+93	-158	+93	
$T_{J\ =\ 70°C}$	-166	+98	-166	+98	

Microsemi
Santa Ana Division
2830 S. Fairview Street, CA. 92704, 714-979-8220, Fax: 714-557-5989

NOTES

Microsemi
Santa Ana Division
2830 S. Fairview Street, CA. 92704, 714-979-8220, Fax: 714-557-5989