



# TPB62 THRU TPB270

## SOLID STATE TELECOMMUNICATION PROTECTION ARRESTOR

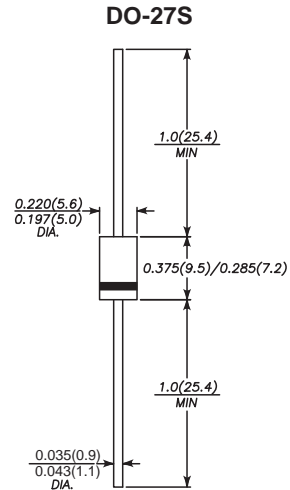
Breakdown Voltage - 62 to 270 Volts Holding Current - 150 Milliampere

### FEATURES

The plastic package carries Underwriters Laboratory  
 Flammability Classification 94V-0  
 Bidirectional crowbar protection  
 Fast response  
 High forward surge current capability  
 High temperature soldering guaranteed:  
 260°C/10 seconds, 0.375" (9.5mm) lead length,  
 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-27S molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750,  
 Method 2026  
**Mounting Position:** Any  
**Weight:** 0.011 ounce, 0.31 grams



Complies with the following standards:	Peak surge voltage (V)	Voltage waveform (μs)	Current waveform (μs)	Admissible Ipp (A)	Necessary resistor (Ω)
CCITTK20	4000	10/700	5/310	100	--
VDE0433	4000	10/700	5/310	100	--
VDE0878	4000	1.2/50	1/20	100	--
IEC-1000-4-5	level 4	10/700	5/310	100	--
	level 4	1.2/50	8/20	100	--
FCC Part 68, lightning surge type A	1500	10/160	10/160	200	--
	800	10/560	10/560	100	--
FCC Part 68, lightning surge type B	100	5/320	5/320	25	--
BELLCORE TR-NWT-001089 First level	2500	2/10	2/10	500	--
	1000	10/1000	10/1000	100	--
BELLCORE TR-NWT-001089 Second level	500	2/10	2/10	500	--
CNET131-24	4000	0.5/700	0.8/310	100	--



## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C)

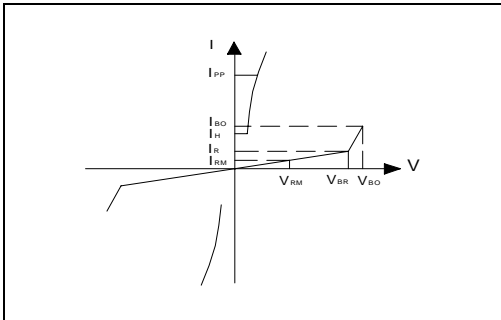
Symbol	Parameter	Value	Unit
P	Power dissipation on infinite heatsink T <sub>amb</sub> =50°C	5.0	W
I <sub>pp</sub>	Peak pulse current	10/1000 μs 8/20 μs 2/10 μs	A
I <sub>TSM</sub>	Non repetitive surge peak on-state current	tp=20ms	A
I <sup>2</sup> t	I <sup>2</sup> t value for fusing	tp=20ms	A <sup>2</sup> s
dV/dt	Critical rate of rise of off-state voltage	V <sub>RM</sub>	kV/μS
T <sub>stg</sub> T <sub>j</sub>	Storage temperature range Maximum junction temperature	-55to+150 150	°C
T <sub>L</sub>	Maximum lead temperature for soldering during 10s at 5mm form case	230	°C

## THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R <sub>th(j-l)</sub>	Junction to leads (L <sub>lead</sub> =10mm)	20	°C/W
R <sub>th(j-a)</sub>	Junction to ambient on printed circuit (L <sub>lead</sub> =10mm)	75	°C/W

Type	I <sub>RM</sub> @ V <sub>RM</sub>		V <sub>R</sub> @ I <sub>R</sub>		V <sub>BO</sub> @ I <sub>BO</sub>		I <sub>H</sub>	C
	μA	V	V	μA	V	mA		
TPB62	2	56	62	50	82	800	150	300
TPB68	2	61	68	50	90	800	150	300
TPB100	2	90	100	50	133	800	150	200
TPB120	2	108	120	50	160	800	150	200
TPB130	2	117	130	50	173	800	150	200
TPB180	2	162	180	50	240	800	150	200
TPB200	2	180	200	50	267	800	150	200
TPB220	2	198	220	50	293	800	150	200
TPB240	2	216	240	50	320	800	150	200
TPB270	2	243	270	50	360	800	150	200

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)



Symbol	Parameter
V <sub>RM</sub>	Stand-off voltage
I <sub>RM</sub>	Leakage current at stand-off voltage
V <sub>R</sub>	Continuous reverse voltage
V <sub>BR</sub>	Breakdown voltage
V <sub>BO</sub>	Breakover voltage
I <sub>H</sub>	Holding current
I <sub>BO</sub>	Breakover current
I <sub>PP</sub>	Peak pulse current
C	Capacitance

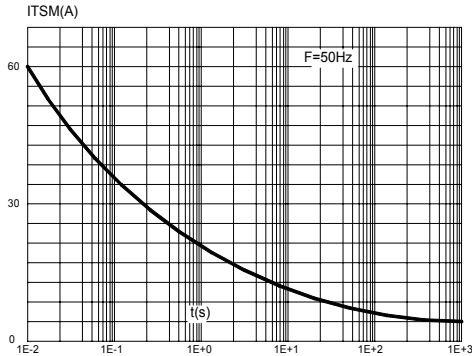
Note 1: I<sub>R</sub> measured at V<sub>R</sub> guarantees V<sub>BRmin</sub> > V<sub>R</sub>  
 Note 3: See test circuit2.

Note 2: Measured at 50Hz<sub>1</sub>(1 cycle)-See test circuit 1. [www.galaxycn.com](http://www.galaxycn.com)  
 Note 4: V<sub>R</sub>=1V, F=1MHz, refer to fig.3 for C versus V<sub>R</sub>.

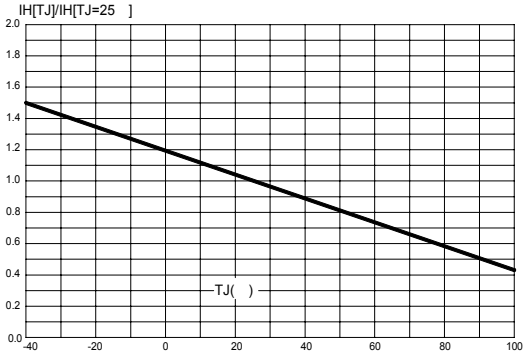


# RATINGS AND CHARACTERISTIC CURVES TPB62 THRU TPB270

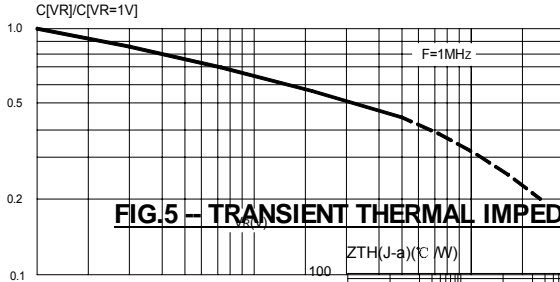
**FIG.1 – NON REPETITIVE SURGE PEAK ON-STATE CURRENT VERSUS OVERLOAD DURATION ( $T_J$  INITIAL=25°C).**



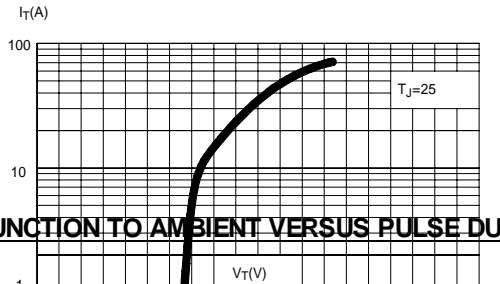
**FIG.2 – RELATIVE VARIATION OF HOLDING CURRENT VERSUS JUNCTION TEMPERATURE.**



**FIG.3 – RELATIVE VARIATION OF JUNCTION CAPACITANCE VERSUS REVERSE APPLIED VOLTAGE**



**FIG.4 – ON-STATE CURRENT VERSUS ON-STATE VOLTAGE**



**FIG.5 – TRANSIENT THERMAL IMPEDANCE JUNCTION TO AMBIENT VERSUS PULSE DURATION**

**FIG.5 – TRANSIENT THERMAL IMPEDANCE JUNCTION TO AMBIENT VERSUS PULSE DURATION**

