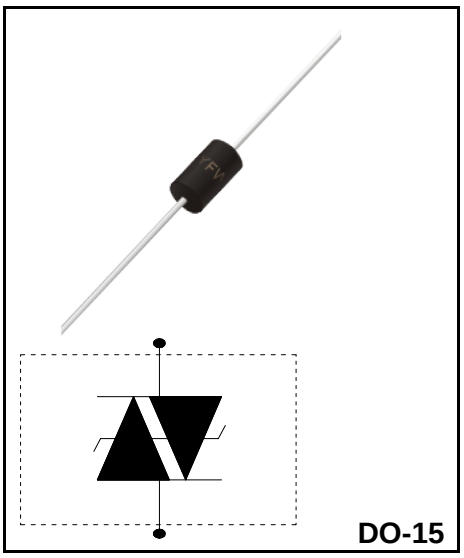
Telecommunication Protection

Reverse Voltage - 62 to 270V

Power Dissipation: 1.7 W



FEATURES

- Bidirectional crowbar protection
- Voltage range:from 62V to 270V.
- Holding current:I_H=150mA min
- Repetitive peak pulse current:I_{pp}=50A,10/1000μs.

DESCRIPTION

The TPA series are designed for protecting sensitive telecommunication equipment against lightning and transient voltages induced by AC power lines.

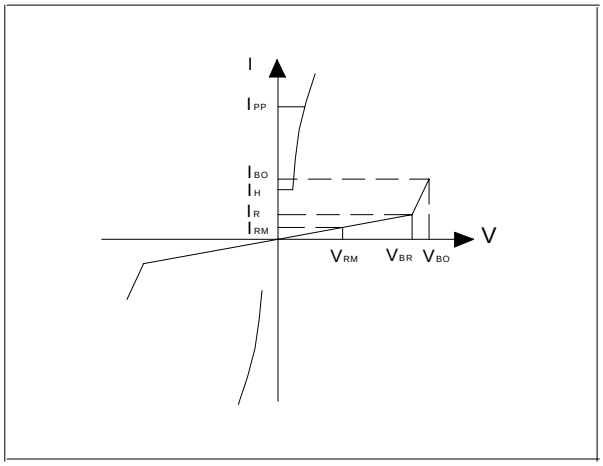
The devices provide bidirectional protection by crowbar action.Their characteristic response to transien over-voltages makes them particularly suited to protect volatge sensitive telecommunication equipment.

ABSOLUTE MAXIMUM RATINGS (T_A=25 °C)

Parameter		Symbol	Value	Unit
Power dissipation on infinite heatsink	Tamb=50°C	**P**	1.7	**W**
Peak pulse current	10/1000μS 8/20μS	**I_{pp}**	50 100	**A**
Non repetitive surge peak on-state current	tp=20ms	**I_{FSM}**	30	**A**
I^2t vallue for fusing	tp=20ms	**I^2t**	9	**A^2s**
Critical rate of rise of off-state voltage	V_{RM}	**dV/dt**	5	**KV/ μs**
Operating Temperature Range		**T_J**	150	**°C**
Storage Temperature Range		**T_{STG}**	-55 ~ +150	**°C**
Maximum leadtemperature for soldering during 10sat 5mmform case		**T_L**	230	**°C**
Junction to leads (L_{lead}=1 0mm)		**R_{th}(j-l)**	60	**°C/W**
Junction to ambient on printed circuit (L_{lead}=10mm)		**R_{th}(j-a)**	100	**°C/W**

Type	I_{RM} @ V_{RM} max.		V_{BR} @ I_R min.		V_{BO} @ I_{BO} max. note1		I_H min. note2	C max. note3
	μA	V	V	mA	V	mA	mA	PF
TPA62	2	56	62	1	82	800	150	150
TPA68	2	61	68	1	90	800	150	150
TPA100	2	90	100	1	133	800	150	100
TPA120	2	10 8	120	1	160	800	150	100
TPA130	2	11 7	130	1	173	800	150	100
TPA180	2	16 2	180	1	240	800	150	100
TPA200	2	18 0	200	1	267	800	150	100
TPA220	2	19 8	220	1	293	800	150	100
TPA240	2	21 6	240	1	320	800	150	100
TPA270	2	24 3	270	1	360	800	150	100

ELECTRICAL CHARACTERISTICS (TA=25°C)

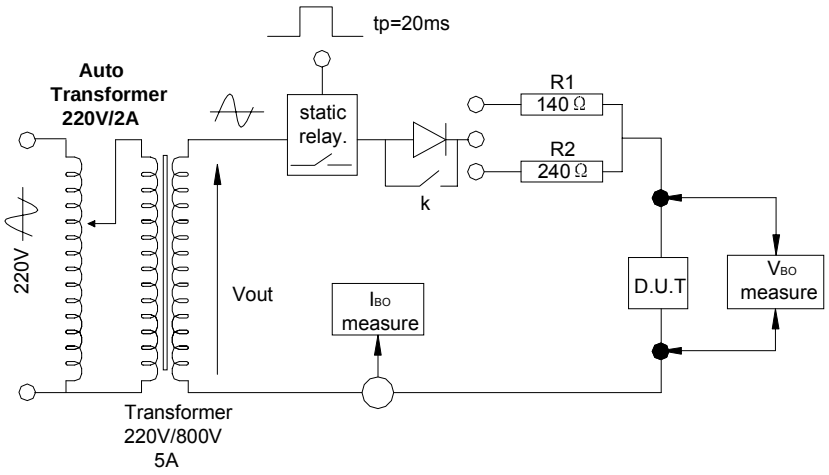


Note2: See test circuit2.

Symbol	Parameter
V_{RM}	Stand-off voltage
I_{RM}	Leakage current at stand-off voltage
V_R	Continuous reverse voltage
V_{BR}	Breakdown voltage
V_{BO}	Breakover voltage
I_H	Holding current
I_{BO}	Breakover current
I_{PP}	Peak pulse current
C	Capacitance

Note1 : Measured at 50Hz (1 cycle) See test circuit 1.
Note3: V_R=1V,F=1MHz, Refer to fig.3 for C versus V_R.

TEST CIRCUIT 1 FOR IBO AND VBO PARAMETERS:

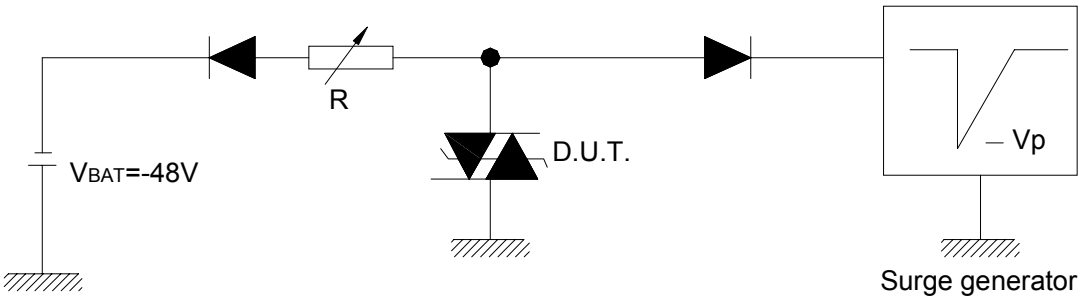


TEST PROCEDURE :

Pulse Test duration (tp = 20ms):
- For Bidirectional devices = SwitchK is closed
- For Unidirectional devices = Switch K is open.

V_{OUT} Selection
- Device with V_{BO} < 200 Volt
  - V_{OUT} = 250 V_{RMS}, R1 = 140 Ω.
- Device with V_{BO} ⩾200 Volt
  - V_{OUT} = 480 V_{RMS}, R2 = 240Ω.

TEST CIRCUIT 2 FOR IH PARAMETER:



This is a GO-NOGOTest which allow s to confirm the holding current (IH) level in a functional test circuit.

TEST PROCEDURE :

1) Adjust the current level at the I_H value by short circuiting the AK of the D.U.T.
2) Fire the D.U.T w ith a surge current : Ipp = 10A , 10/1000 ms.
3) The D.U.T w ill come back off-state w ithin 50ms max.

FIG.1 -- NON REPETITIVE SURGE PEAK ON-STATE CURRENT VERSUS OVERIOAD DURATION (T_J INItIAl=25°C).

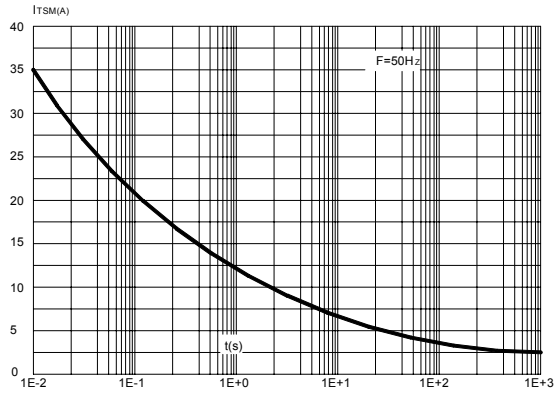


FIG.2 -- REIATIVE VARIATION OF GOIDING CURRENT VERSUS JUNCTION TEMPERATURE.

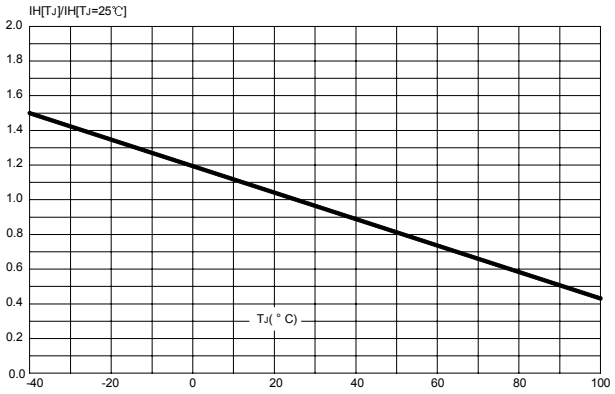


FIG.3 -- REIATIVE VARIATION OF JUNCTION CAPACITANCE VERSUS REVERSE APPLIED VOITAGE

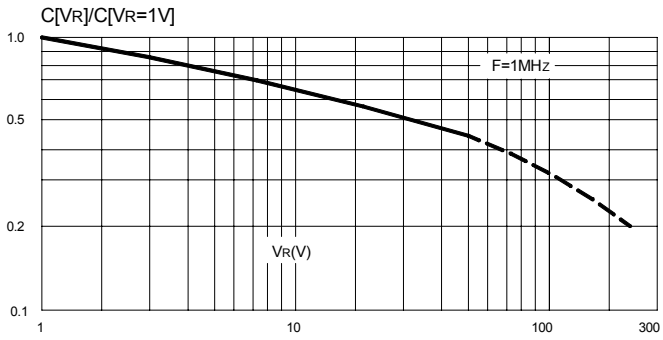


FIG.4 -- ON-STATE CURRENT VERSUS ON-STATE VOITAGE

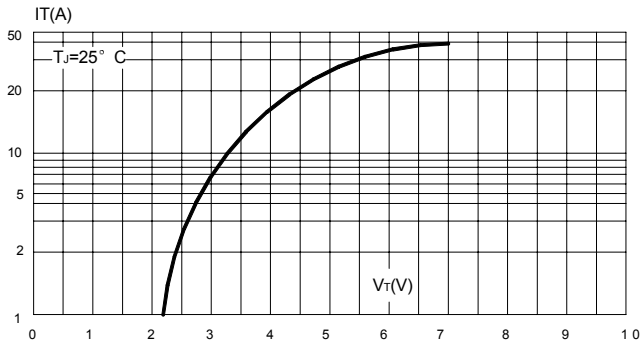
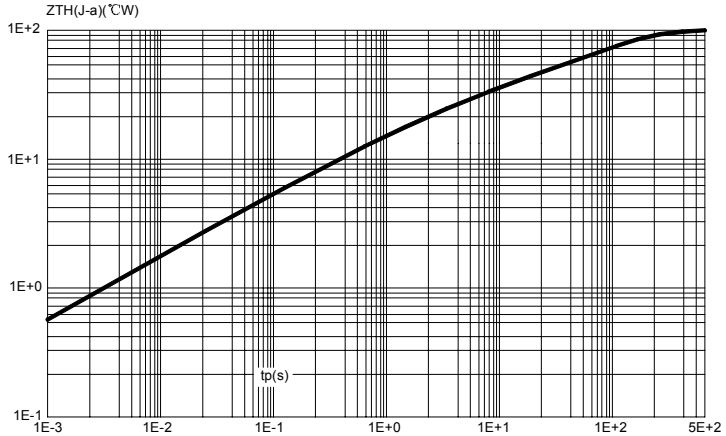


FIG.5 -- TRANSIENT THERMAl IMPEDANCE JUNCTION TO AMBIENT VERSUS PUISE DURATION

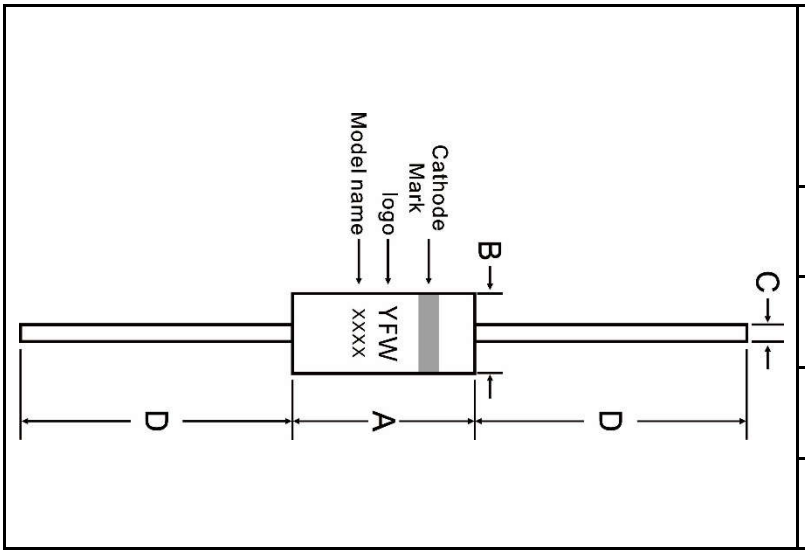


Ordering information

Package	Packing Description	Packing Quantity
DO-15	bulk	500PCS/Inner Box 30000PCS/Carton
	ammo pack	3000PCS/Inner Box 30000PCS/Carton

Package Dimensions

DO-15



Dim.	Millimeter(mm)		INCHES	
	Min.	Max.	Min.	Max.
A	5.80	7.60	0.230	0.300
B	2.60	3.60	0.104	0.140
C	0.71	0.86	0.028	0.034
D	25.4	-	1.00	-

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