

Surface Mounted Over-voltage Protection Thyristor

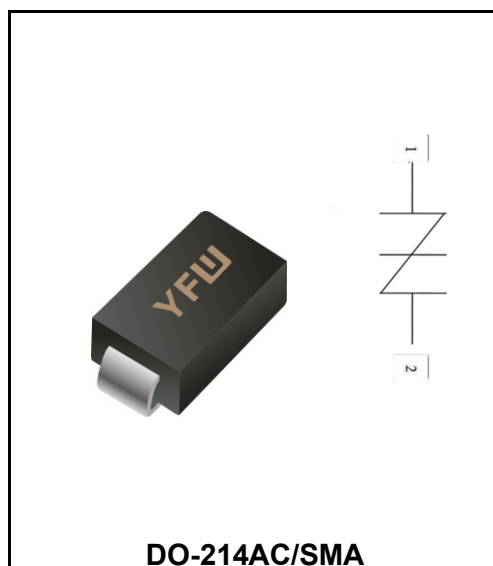
Reverse Voltage 6.0 ~ 390 V

Features

- ◆ Low reverse leakage
- ◆ High reliability
- ◆ High temperature soldering guaranteed:
260°C/10seconds
- ◆ Lead and body according with RoHS standard
- ◆ Have low capacitance, making them ideal for
high-speed transmission equipment
- ◆ Will not fatigue
- ◆ Are non-degenerative
- ◆ Eliminate voltage overshoot caused by
fast-rising transients
- ◆ Cannot be damaged by voltage

Mechanical Data

- ◆ Case: DO-214AC/SMA
- ◆ Epoxy: UL 94V-0 rate flame retardant
- ◆ Lead: Pure tin plated, lead free
- ◆ Green compound



Electrical Parameters

Parameter	Definition
V_{DRM}	Peak Off-state Voltage – maximum voltage that can be applied while maintaining off state
V_S	Switching Voltage – maximum voltage prior to switching to on state
V_T	On-state Voltage – maximum voltage measured at rated on-state current
I_{DRM}	Leakage Current – maximum peak off-state current measured at V_{DRM}
I_S	Switching Current – maximum current required to switch to on state
I_T	On-state Current – maximum rated continuous on-state current
I_H	Holding Current – minimum current required to maintain on state
C_O	Off-state Capacitance – typical capacitance measured in off state
V_{PP}	Peak Pulse Voltage – maximum rated peak impulse voltage
I_{PP}	Peak Pulse Current – maximum rated peak impulse current

Electrical Characteristics

Part Number	Marking	V _{DRM} (V)	V _S (V)	V _T (V)	I _{DRM} (uA)	I _S (mA)	I _T (A)	I _H (mA)	C _O (pF)	V _{PP} 10/700us (V)	I _{PP} 10/1000us (A)
P0060TAL	P006AL	6	15	4	5	800	2.2	50	10	3000	75
P0080TAL	P008AL	6	25	4	5	800	2.2	50	15	3000	75
P0300TAL	P030AL	25	40	4	5	800	2.2	50	10	3000	75
P0640TAL	P064AL	58	77	4	5	800	2.2	150	15	3000	75
P0720TAL	P072AL	65	88	4	5	800	2.2	150	10	3000	75
P0900TAL	P090AL	75	98	4	5	800	2.2	150	10	3000	75
P1100TAL	P110AL	90	130	4	5	800	2.2	150	10	3000	75
P1300TAL	P130AL	120	160	4	5	800	2.2	150	10	3000	75
P1500TAL	P150AL	140	180	4	5	800	2.2	150	10	3000	75
P1800TAL	P180AL	170	220	4	5	800	2.2	150	10	3000	75
P2300TAL	P230AL	190	260	4	5	800	2.2	150	10	3000	75
P2600TAL	P260AL	220	300	4	5	800	2.2	150	10	3000	75
P3100TAL	P310AL	275	350	4	5	800	2.2	150	8	3000	75
P3500TAL	P350AL	320	400	4	5	800	2.2	150	8	3000	75
P4200TAL	P420AL	390	500	4	5	800	2.2	0	8	3000	75

Note:

- 1) All measurements are made at an ambient temperature of 25°C. I_{PP} applies to -40°C through +85°C temperature range.
- 2) Off-state capacitance (C_O) is measured at 1 MHz with a 2 V bias and is typical value.

Thermal Considerations

Package	Symbol	Parameter	Value	Unit
DO-214AC SMA	T_J	Operating Junction Temperature	-40 to +150	°C
	T_S	Storage Temperature Range	-40 to +150	°C
	R_{JA}	Junction to Ambient on printed circuit	105	°C/W

Characteristics Curves

Figure 1. V-I Characteristics

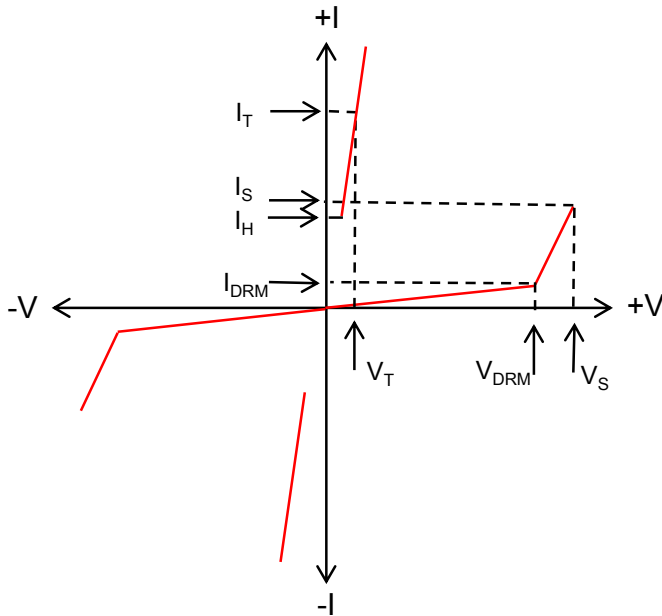


Figure 2. $t_r \times t_d$ Pulse Wave-form

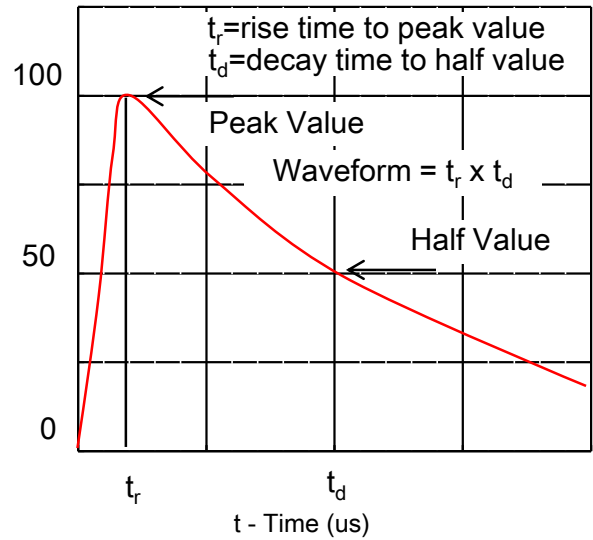


Figure 3. Normalized V_S Change versus Junction Temperature

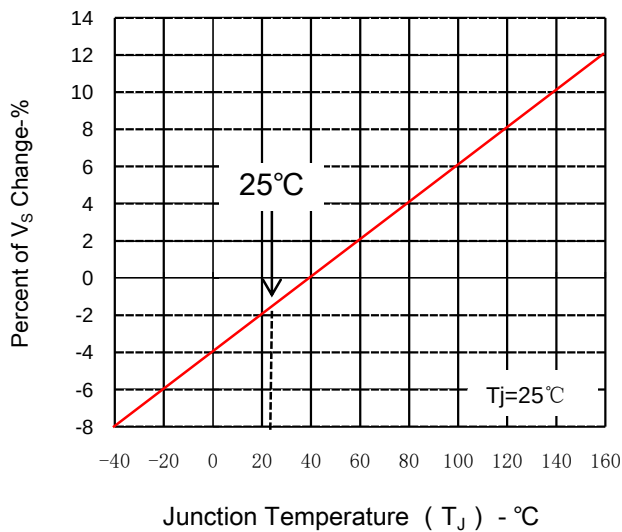
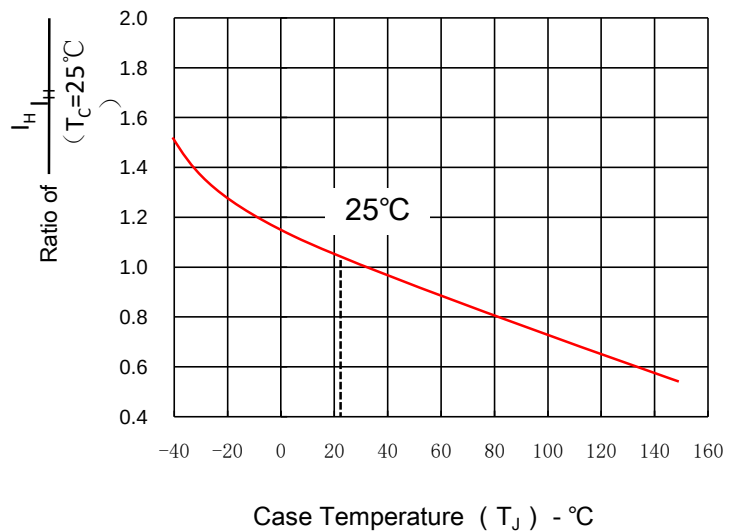


Figure 4. Normalized DC Holding Current versus Case Temperature



Marking Diagram



Ordering information

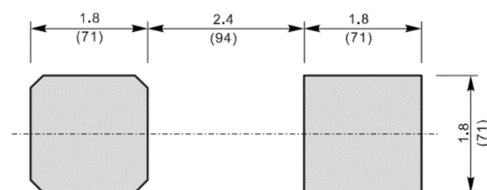
Package	Packing Description	Packing Quantity
DO-214AC SMA	Tape/Reel, 13" reel	5000PCS/Reel 50000PCS/Carton

Package Dimensions

DO-214AC SMA

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	1.9	2.45	75	96
D	4.0	4.5	157	181
E	2.5	2.8	100	110
H _E	4.7	5.2	185	205
c	0.15	0.31	6	12
e	1.3	1.8	51	71
g	0.9	1.5	35	59
b	0.05	0.2	2	7.9
a	0.3		12	

The recommended mounting pad size



Unit : $\frac{\text{mm}}{(\text{mil})}$

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