Features

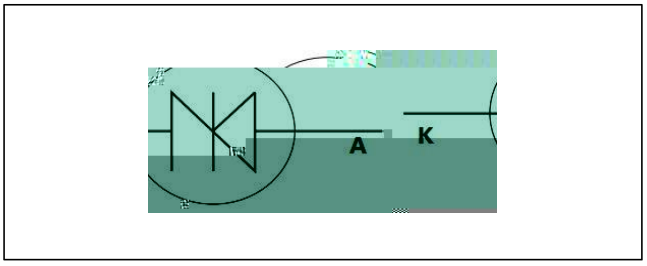
- No degrade after multiple discharge current events.
- Quick switching on performance
- Low on state voltage
- Plastic package is flammability rated V-0 per UL-94
- IEC61000-4-2 +/-30kV both contact and air
- IEC61000-4-4 50A(5/50nS)

Applications

Suitable for capacitor-discharge high voltage generator circuit such like gas stove ignition, water heater ignition etc.

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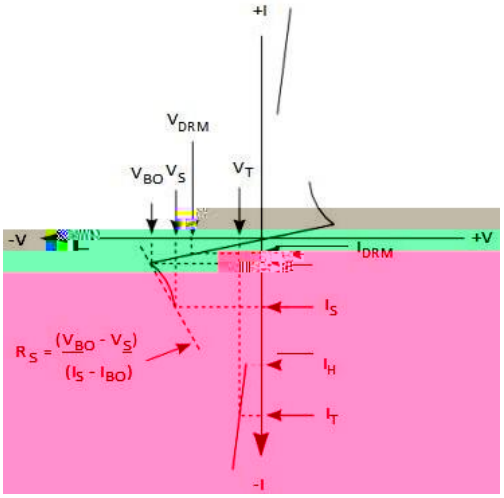
Function Diagram



Electrical Specification (T =25°C unless otherwise noted)

Symbol	Parameters	Test Conditions			Min	Max	Unit
$I_{T(RMS)}$	On-state RMS Current	50/60Hz				1	A
I_{DRM}	Repetitive Peak Off-state Current	V = V_{DRM} 50/60Hz Sine Wave				5	μA
V_{TM}	Peak On-state Voltage	I_T = 1A				1.2	V
R_S	Switching Resistance, $R_S = \frac{(V_{BO} - V_S)}{(I_S - I_{BO})}$	50/60Hz Sine Wave			100		Ω
I_{BO}	Breakover Current	50/60Hz Sine Wave				10	μA
I_{TRM}	Peak Repetitive Pulse Current (refer to figure 2)		T_P=10μs T_A=125C	60Hz		80	A
				5Hz		160	
I_{TSM}	Peak Non-repetitive Surge Current (refer to figure 4)	Single Cycle		60Hz		20	A
				50Hz		16.7	
di/dt	Critical Rate of Rise of On-state Current					150	A/μs
dv/dt	Critical Rate of Rise of Off-state Voltage				1500		V/μs
T_S	Storage Temperature Range				-40	150	°C
T_J	Junction Temperature Range				-40	125	°C
R_{JL}	Thermal Resistance, Junction to Lead	DO-214AC				30	°C/W

I-V Curve Characteristics

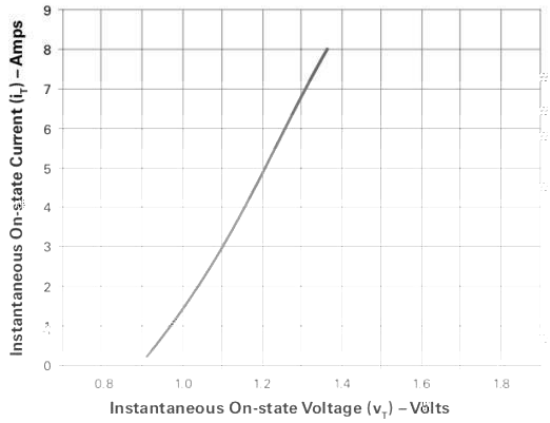


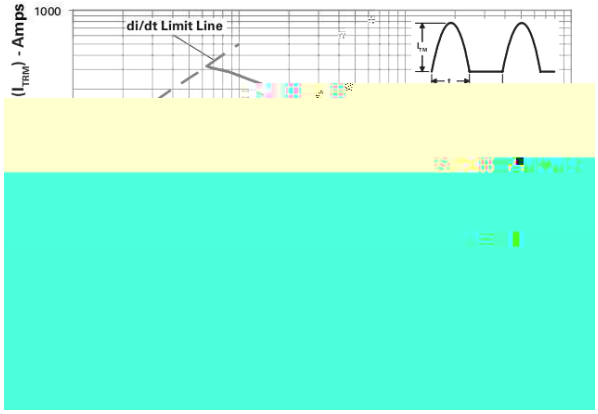
V_{DRM} Stand-off Voltage -- Maximum voltage that can be applied to the PTSS without trigger

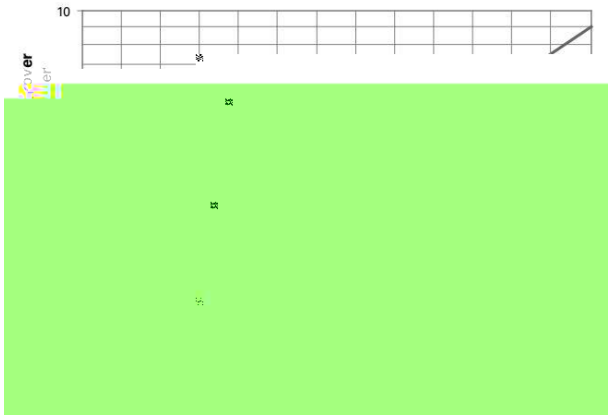
V_{BO} Break Over Voltage -- Maximum voltage that trigger the PTSS

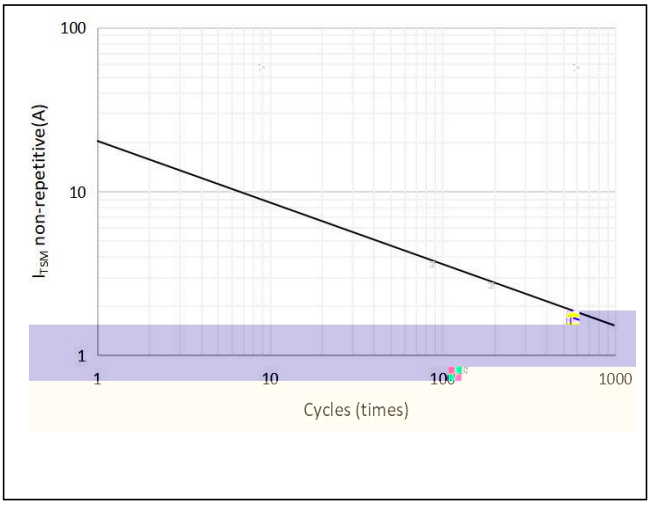
V_T Turn on Voltage -- Voltage drop after PTSS is triggered on

I_H Holding Current -- Current that hold the PTSS to on state


Instantaneous On-state Current (i_T) – Amps
9
8
7
6
5
4
3
2
0
0.8
1.0
1.2
1.4
1.6
1.8
Instantaneous On-state Voltage (v_T) – Volts

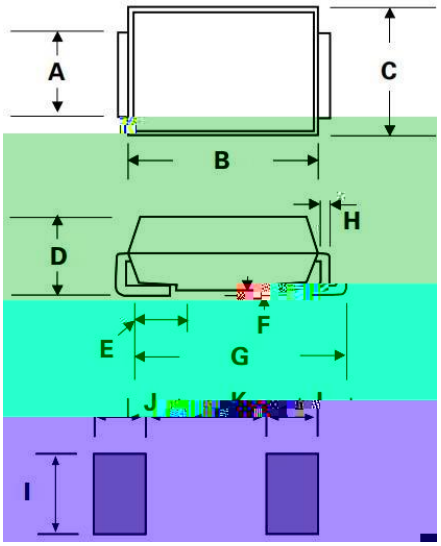

1000
di/dt Limit Line


10


100
10
1
I_{TSM} non-repetitive(A)
1
10
100
1000
Cycles (times)

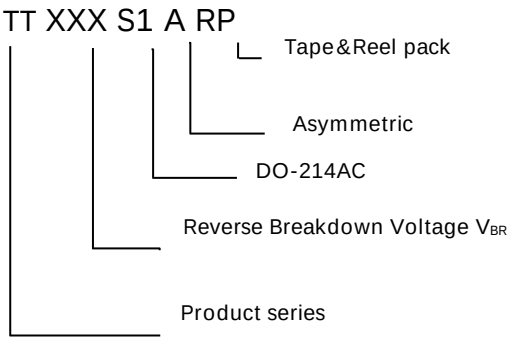
		Lead–free assembly
Pre Heat	- Temperature Min ($T_{S(min)}$)	150°C
	- Temperature Max ($T_{S(max)}$)	200°C
	- Time (min to max) (t_S)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_A) to peak		3°C/second max
$T_{S(max)}$ to T_A - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_A) (Liquidus)	217°C
	- Time (min to max) (t_S)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C

Dimensions

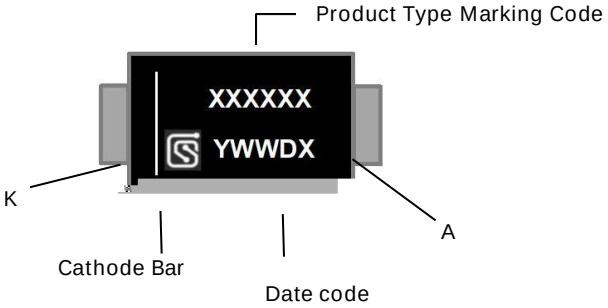


	Inches		Millimeters	
	Min	Max	Min	Max
A	0.049	0.065	1.250	1.650
B	0.157	0.177	3.990	4.500
C	0.100	0.110	2.540	2.790
D	0.078	0.090	1.980	2.290
E	0.030	0.060	0.780	1.520
F	-	0.008	-	0.203
G	0.194	0.208	4.930	5.280
H	0.006	0.012	0.152	0.305
I	0.070	-	1.800	-
J	0.082	-	2.100	-
K	-	0.090	-	2.300
L	0.082	-	2.100	-

Part Numbering



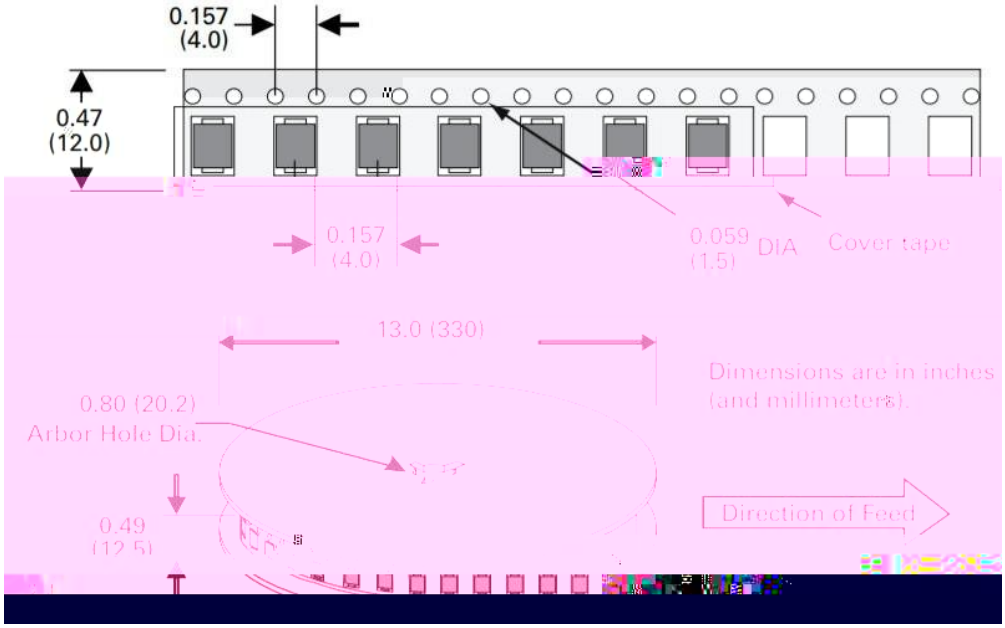
Part Marking



Packing

Part number	Package name	Small packing quantity	Packing method
TTXXXS1ARP	DO-214AC	5000	Tape & Reel

Tape and Reel Specification



Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	10-Sep-2022
1.1	Add TT150 typical ignition waveform	17-Oct-2022
1.2	Change Marking information	5-Dec-2022