

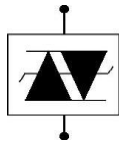
Product Overview

A Semiconductor discharge tube is an overvoltage protection device, which is made using the thyristor principle, relying on the breakdown current of the PN junction to trigger the device to conduct discharge, which can flow through a large inrush current or pulse current

Product Features

- Low voltage and overshoot
- Low on-state voltage
- Does not degrade with use
- Fails short circuit when surged in excess of ratings
- Low capacitance

Package



ELECTRICAL CHARACTERISTICS (T_A=25°C, continued)

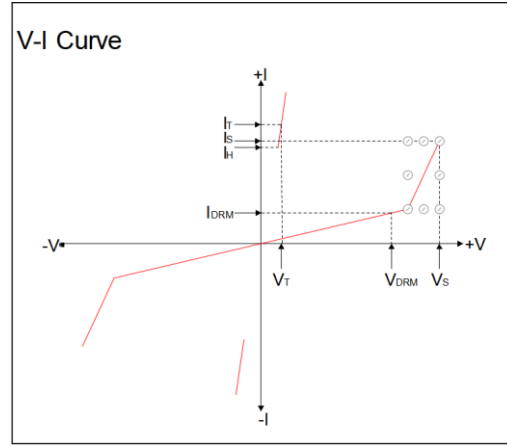
Part Number	IDRM@VDRM		VS①@IS		V _T @I _T		IH	C _O
	μA	V	V	mA	V	A	mA	pF
	max	min	max	max	max	max	min	max
DP0080TA	5	6	15	800	4	2.2	30	45
DP0300TA	5	25	40	800	4	2.2	30	45
DP0640TA	5	58	77	800	4	2.2	120	50
DP0720TA	5	65	87	800	4	2.2	120	50
DP0900TA	5	75	98	800	4	2.2	120	50
DP1100TA	5	90	130	800	4	2.2	120	50
DP1300TA	5	120	160	800	4	2.2	120	50
DP1500TA	5	140	180	800	4	2.2	120	50
DP1800TA	5	170	220	800	4	2.2	120	60
DP2300TA	5	190	260	800	4	2.2	120	60
DP2600TA	5	220	300	800	4	2.2	120	50
DP3100TA	5	275	350	800	4	2.2	120	40
DP3500TA	5	320	400	800	4	2.2	120	40
DP3800TA	5	340	450	800	4	2.2	120	40
DP4200TA	5	400	520	800	4	2.2	20	40

ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

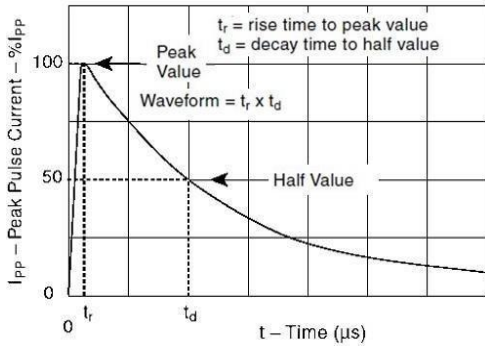
Symbol	Parameter	Value	Unit
T _J	Operating Junction Temperature	-40~+150	°C
T _S	Storage Temperature Range	-65~+150	°C

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

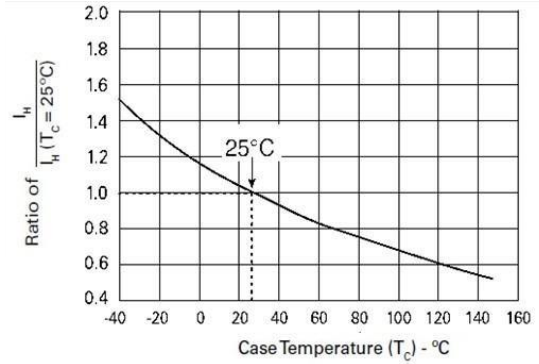
Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_s	Switching voltage
I_s	Switching current
V_r	On-state voltage
I_r	On-state current
I_h	Holding current
C_o	Off-state capacitance



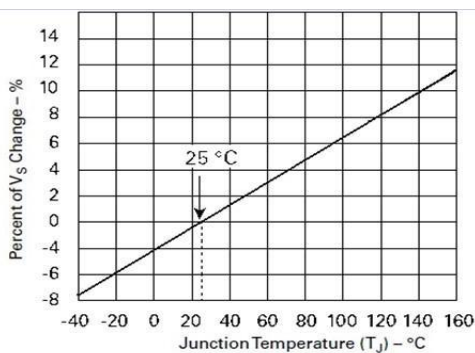
Tr x Td Pulse waveform



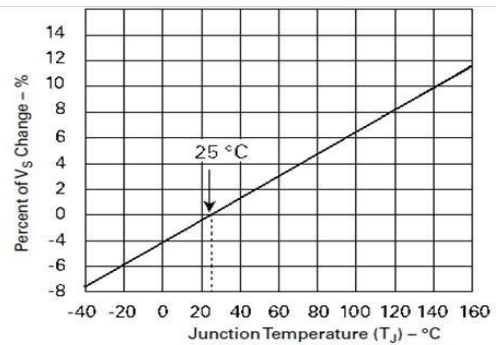
Normalized DC holding current vs. case temperature



Vs change vs. junction temperature



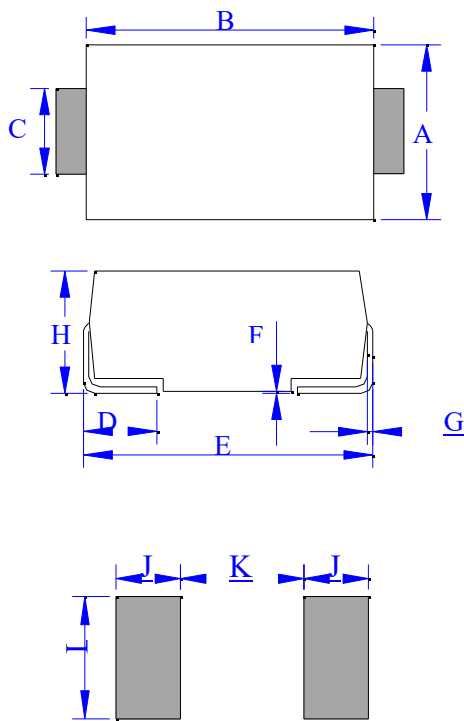
Co change vs. bias voltage ($V_R=1V$)



Surge rating

Series	$I_{\text{pp}}(\text{A})$ min		
	8/20 μs	10/360 μs	10/1000 μs
A	150	50	35

Package size



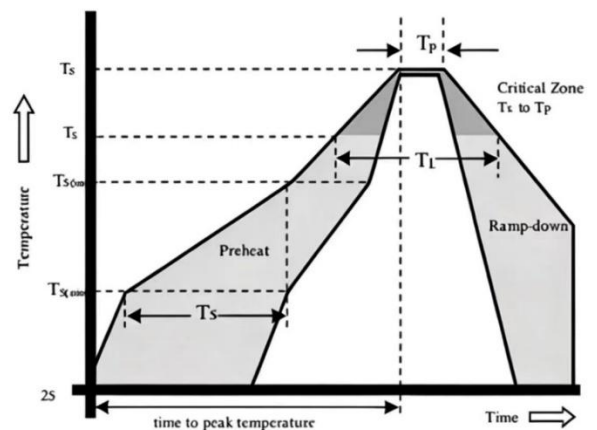
DO-214AC (SMA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	4.15	4.65	0.163	0.183
C	1.25	1.65	0.049	0.065
D	0.95	1.52	0.037	0.060
E	4.90	5.30	0.193	0.209
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.00	2.44	0.079	0.096
J	2.00		0.079	
K		2.30		0.091
L	1.80		0.071	

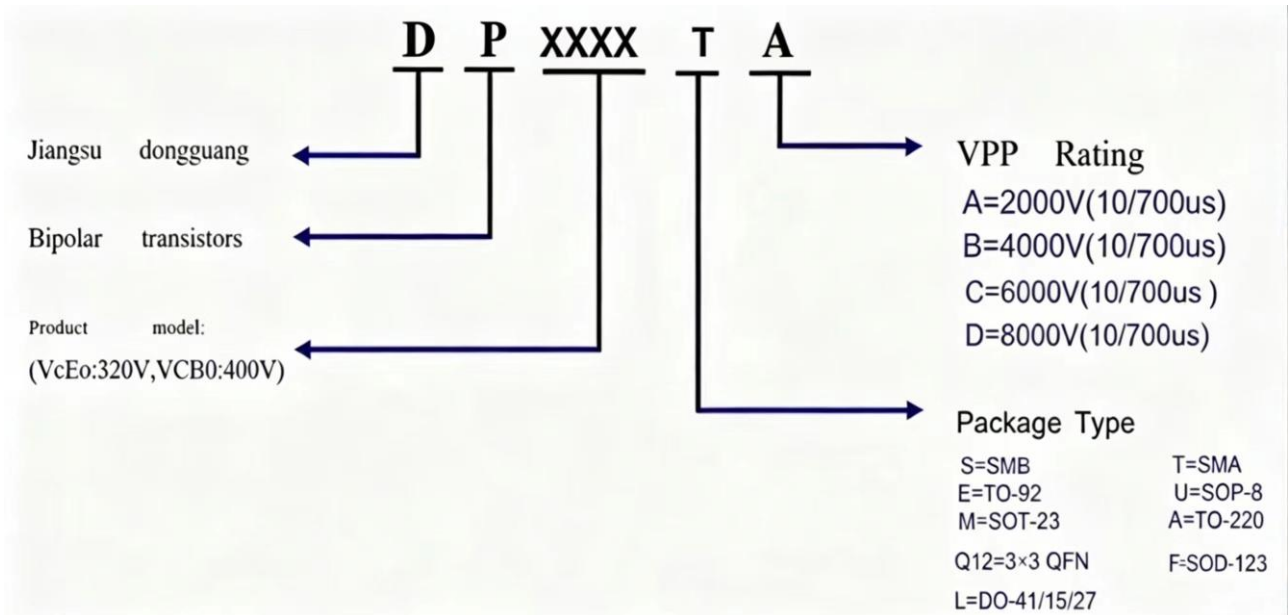
Welding parameters

Reflow Profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60 – 180 seconds
Average ramp up rate (Liquidus Temp (T _L) to peak)		3°C/second max
T _s (nus) to T _L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T _L) (Liquidus)	217°C
	- Temperature (T _L)	60 – 150 seconds
Peak Temp (T _F)		260±0/5 °C
Time within 5°C of actual Peak Temp (T _F)		8-15 seconds
Ramp-down Rate		6°C/s max
Time 25°C to peak Temp (T _r)		8 min max.
Do not exceed		260°C



Naming conventions



Marking



Order instructions: Ordering method

Part Number	Component Package	QTY/Reel	Reel Size
PxxxxTA	DO-214AC(SMA)	5000PCS	13"

Note

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