

Transient Voltage Suppressor Diodes

DO-214AA/SMB

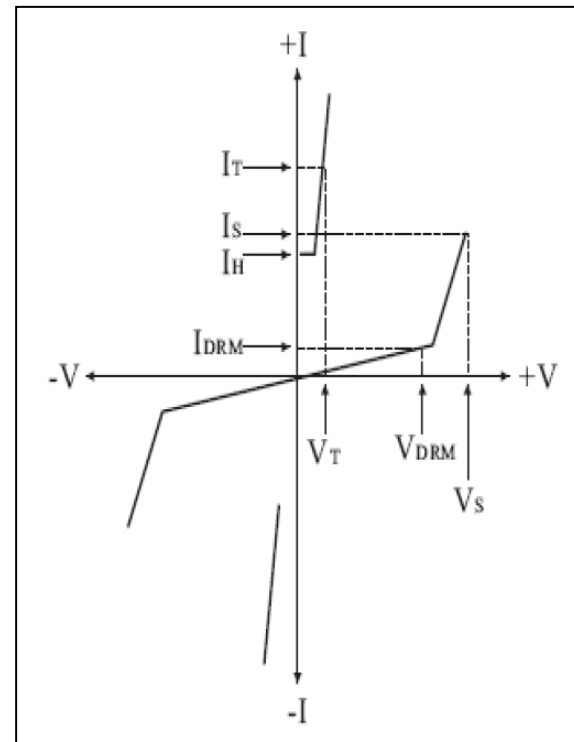


Features

- Low switching voltage
- Low on-state voltage
- Does not degrade surge capability after multiple surge Events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance

■Electrical Parameters

Parameter	Definition
CO	Off-state Capacitance—typical capacitance measured in off state @ 2 V bias and 1 MHz
di/dt	Rate of Rise of Current—maximum rated value of the acceptable rate of rise in current over time
IS	Switching Current —maximum current required to switch to on state
IDRM	Leakage Current—maximum peak off-state current measured at VDRM
IH	Holding Current—minimum current required to maintain on state
IPP	Peak Pulse Current—maximum rated peak impulse current
IT	On-state Current—maximum rated continuous on-state current
ITSM	Peak One-cycle Surge Current—maximum rated one-cycle AC current
VS	Switching Voltage—maximum voltage prior to switching to on state during 100V/ μ s surge
VDRM	Peak Off-state Voltage—maximum voltage that can be applied while maintaining off state
VF	On-state Forward Voltage—maximum forward voltage measured at rated on-state current
VT	On-state Voltage—maximum voltage measured at rated on-state current





P0080SA THRU P5000SA

■Limiting Values (Absolute Maximum Rating)

Parameter	Symbol	Value	Unit
Operating Junction Temperature	TJ	-40 to+150	°C
Storage Temperature Range	TS	-40 to+150	°C
Junction to Ambient on printed circuit	RθJA	90	°C/W

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

Part Number*	Marking	VDRM Volts@ IDRM=5uA	VS Volts@ 1000V/us	VT Volts@ IT=2.2A	IS mAmps	IT Amps	IH mAmps	Capacitance @1MHz,2V bias	
		Vmin	Vmax	A max	mA max	A max	mA min	pF min	pF max
P0080SA	S008A	6	25	4	800	2.2	50	45	65
P0300SA	S03A	25	40	4	800	2.2	50	45	55
P0640SA	S06A	58	77	4	800	2.2	150	35	45
P0720SA	S07A	65	88	4	800	2.2	150	50	60
P0900SA	S09A	75	98	4	800	2.2	150	40	55
P1100SA	S11A	90	130	4	800	2.2	150	35	45
P1300SA	S13A	120	160	4	800	2.2	150	35	45
P1500SA	S15A	140	180	4	800	2.2	150	40	55
P1800SA	S18A	170	220	4	800	2.2	150	40	55
P2000SA	S20A	180	220	4	800	2.2	150	40	55
P2300SA	S23A	190	260	4	800	2.2	150	45	55
P2600SA	S26A	220	300	4	800	2.2	150	35	45
P3100SA	S31A	275	350	4	800	2.2	150	35	45
P3500SA	S35A	320	400	4	800	2.2	150	30	40



P0080SA THRU P5000SA

P4000SA	S40A	360	460	4	800	2.2	150	20	35
P4500SA	S45A	400	540	4	800	2.2	150	20	35
P5000SA	S50A	440	600	4	800	2.2	150	20	35

Notes:

*For surge ratings, see table below.

Notes:

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

■Surge Ratings

Series	IPP 2/10μs	IPP 8/20μs	IPP 10/160μs	IPP 10/560μs	IPP 10/1000μs	ITSM 60Hz	di/dt
A	Amps 150	Amps 150	Amps 90	Amps 50	Amps 45	Amps 20	Amps/μs 500

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
P0080SA THRU P5000SA	F1	Approximate 0.065	5000	10000	100000	13" reel

■Characteristics(Typical)

Fig1 $t_r \times t_d$ Pulse Waveform

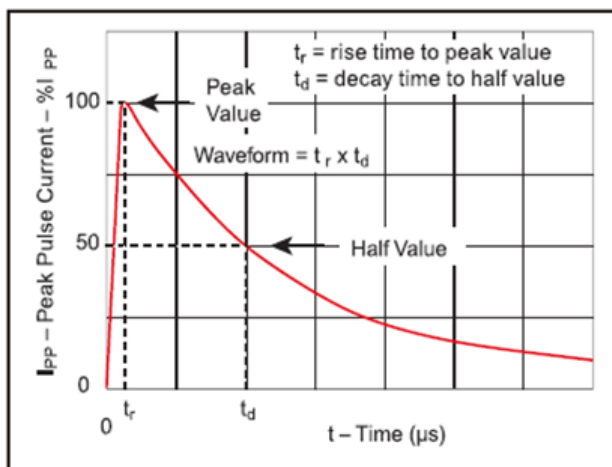


Fig2 Normalized V_S Change vs. Junction Temperature

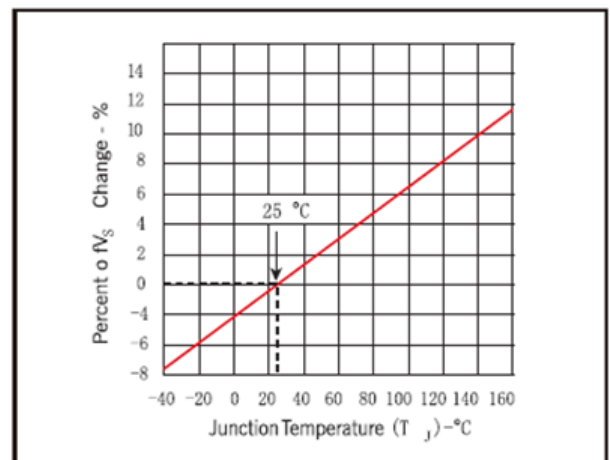
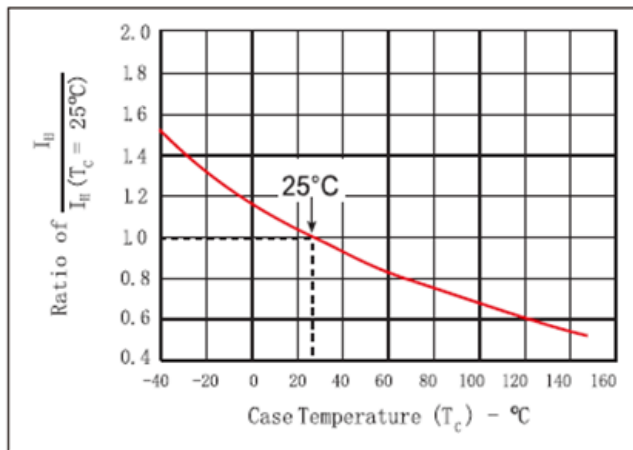
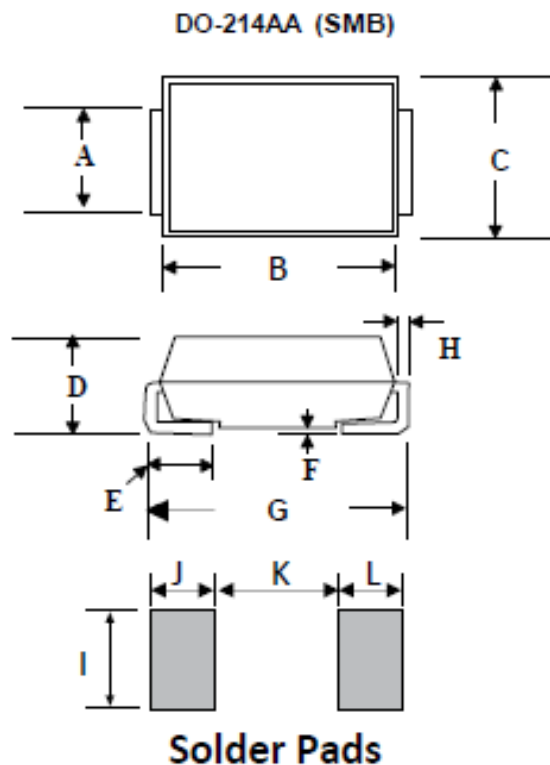


Fig 3 Normalized DC Holding Current vs. Case Temperature



■Dimensions



Dim	Inches		Millimeters	
	Min	Max	Min	Max
A	0.077	0.086	1.950	2.200
B	0.160	0.180	4.060	4.570
C	0.130	0.155	3.300	3.940
D	0.084	0.096	2.130	2.440
E	0.030	0.060	0.760	1.520-
F	--	0.008	--	0.203
G	0.205	0.220	5.210	5.280
H	0.006	0.012	0.152	0.305
I	0.089	--	2.260	--
J	0.085	--	2.160	--
K	--	0.107	--	2.740
L	0.085	--	2.160	--

(all dimensions in mm)



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