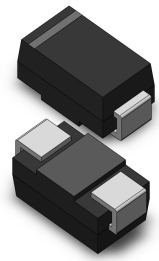
P4SMAJ6.8A(CA) - P4SMAJ440A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPESSOR DIODE

VOLTAGE RANGE: 6.8 - 440 V
POWER: 400Watts



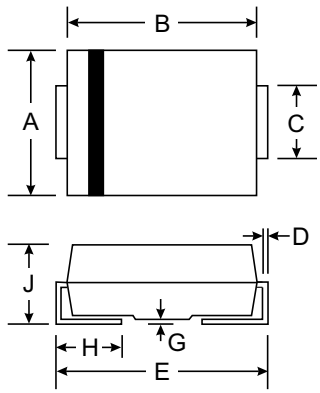
Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)

RoHS COMPLIANT



SMA(DO-214AC)		
Dim	**Min**	**Max**
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.10	0.20
H	0.76	1.52
J	2.01	2.62
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T_A = 25°C) (Note 1)	P_{PK}	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	40	A
Instantaneous Forward Voltage @ I_{PP} = 35A (Notes 1, 2, & 3)	V_F	3.5	V
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

Notes: 1. Valid provided that terminals are kept at ambient temperature.
2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
3. Unidirectional units only.

TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_{RWM}
(UNI)	(BI)	(UNI)	(BI)	V_{RWM}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(uA)
P4SMAJ6.8	P4SMAJ6.8C	HD	TD	5.50	6.12	7.48	10	10.8	38.0	1000.0
P4SMAJ6.8A	P4SMAJ6.8CA	HE	TE	5.80	6.45	7.14	10	10.5	40.0	1000.0
P4SMAJ7.5	P4SMAJ7.5C	HF	TF	6.05	6.75	8.25	10	11.7	36.0	500.0
P4SMAJ7.5A	P4SMAJ7.5CA	HG	TG	6.40	7.13	7.88	10	11.3	37.0	500.0
P4SMAJ8.2	P4SMAJ8.2C	HH	TH	6.63	7.38	9.02	10	12.5	33.0	200.0
P4SMAJ8.2A	P4SMAJ8.2CA	HK	TK	7.02	7.79	8.61	10	12.1	35.0	200.0
P4SMAJ9.1	P4SMAJ9.1C	HL	TL	7.37	8.19	10.0	1.0	13.8	30.0	50.0
P4SMAJ9.1A	P4SMAJ9.1CA	HM	TM	7.78	8.65	9.55	1.0	13.4	31.0	50.0
P4SMAJ10	P4SMAJ10C	HN	TN	8.10	9.00	11.0	1.0	15.0	28.0	10.0
P4SMAJ10A	P4SMAJ10CA	HP	TP	8.55	9.50	10.5	1.0	14.5	29.0	10.0
P4SMAJ11	P4SMAJ11C	HQ	TQ	8.92	9.90	12.1	1.0	16.2	26.0	5.0
P4SMAJ11A	P4SMAJ11CA	HR	TR	9.40	10.5	11.6	1.0	15.6	27.0	5.0
P4SMAJ12	P4SMAJ12C	HS	TS	9.72	10.8	13.2	1.0	17.3	24.0	5.0
P4SMAJ12A	P4SMAJ12CA	HV	TV	10.2	11.4	12.6	1.0	16.7	25.0	5.0
P4SMAJ13	P4SMAJ13C	HW	TW	10.5	11.7	14.3	1.0	19.0	22.0	5.0
P4SMAJ13A	P4SMAJ13CA	HX	TX	11.1	12.4	13.7	1.0	18.2	23.0	5.0
P4SMAJ15	P4SMAJ15C	HY	TY	12.1	13.5	16.5	1.0	22.0	19.0	5.0
P4SMAJ15A	P4SMAJ15CA	HZ	TZ	12.8	14.3	15.8	1.0	21.2	20.0	5.0
P4SMAJ16	P4SMAJ16C	ID	UD	12.9	14.4	17.6	1.0	23.5	18.0	5.0
P4SMAJ16A	P4SMAJ16CA	IE	UE	13.6	15.2	16.8	1.0	22.5	19.0	5.0
P4SMAJ18	P4SMAJ18C	IF	UF	14.5	16.2	19.8	1.0	26.5	16.0	5.0
P4SMAJ18A	P4SMAJ18CA	IG	UG	15.3	17.1	18.9	1.0	25.2	17.0	5.0
P4SMAJ20	P4SMAJ20C	IH	UH	16.2	18.0	22.0	1.0	29.1	14.0	5.0
P4SMAJ20A	P4SMAJ20CA	IK	UK	17.1	19.0	21.0	1.0	27.7	15.0	5.0
P4SMAJ22	P4SMAJ22C	IN	UN	17.8	19.8	24.2	1.0	31.9	13.0	5.0
P4SMAJ22A	P4SMAJ22CA	IP	UP	18.8	20.9	23.1	1.0	30.6	14.0	5.0
P4SMAJ24	P4SMAJ24C	IS	US	19.4	21.6	26.4	1.0	34.7	12.0	5.0
P4SMAJ24A	P4SMAJ24CA	IT	UT	20.5	22.8	25.2	1.0	33.2	13.0	5.0
P4SMAJ27	P4SMAJ27C	IU	UU	21.8	24.3	29.7	1.0	39.1	11.0	5.0
P4SMAJ27A	P4SMAJ27CA	IV	UV	23.1	25.7	28.4	1.0	37.5	11.2	5.0
P4SMAJ30	P4SMAJ30C	IW	UW	24.3	27.0	33.0	1.0	43.5	10.0	5.0
P4SMAJ30A	P4SMAJ30CA	IX	UX	25.6	28.5	31.5	1.0	41.4	10.0	5.0
P4SMAJ33	P4SMAJ33C	IY	UY	26.8	29.7	36.3	1.0	47.7	9.0	5.0
P4SMAJ33A	P4SMAJ33CA	IZ	UZ	28.2	31.4	34.7	1.0	45.7	9.0	5.0
P4SMAJ36	P4SMAJ36C	JD	VD	29.1	32.4	39.6	1.0	52.0	8.0	5.0
P4SMAJ36A	P4SMAJ36CA	JG	VG	30.8	34.2	37.8	1.0	49.9	8.4	5.0
P4SMAJ39	P4SMAJ39C	JH	VH	31.6	35.1	42.9	1.0	56.4	7.4	5.0
P4SMAJ39A	P4SMAJ39CA	JK	VK	33.3	37.1	41.0	1.0	53.9	7.8	5.0
P4SMAJ43	P4SMAJ43C	JL	VL	34.8	38.7	47.3	1.0	61.9	6.8	5.0
P4SMAJ43A	P4SMAJ43CA	JM	VM	36.8	40.9	45.2	1.0	59.3	7.1	5.0
P4SMAJ47	P4SMAJ47C	JN	VN	38.1	42.3	51.7	1.0	67.8	6.2	5.0
P4SMAJ47A	P4SMAJ47CA	JP	VP	40.8	44.7	49.4	1.0	64.8	5.0	5.0
P4SMAJ51	P4SMAJ51C	JQ	VQ	41.3	45.9	56.1	1.0	73.5	5.7	5.0
P4SMAJ51A	P4SMAJ51CA	JR	VR	43.6	48.5	53.6	1.0	70.1	6.0	5.0

TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_{RWM}
(UNI)	(BI)	(UNI)	(BI)	V_{RWM} (V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R (uA)
P4SMAJ56	P4SMAJ56C	JS	VS	45.4	50.4	61.6	1.0	80.5	5.2	5.0
P4SMAJ56A	P4SMAJ56CA	JT	VT	47.8	53.2	58.8	1.0	77.0	5.5	5.0
P4SMAJ62	P4SMAJ62C	JU	VU	50.2	55.8	68.2	1.0	89.0	4.7	5.0
P4SMAJ62A	P4SMAJ62CA	JV	VV	53.0	58.9	65.1	1.0	85.0	5.0	5.0
P4SMAJ68	P4SMAJ68C	JY	VY	55.1	61.2	74.8	1.0	98.0	4.3	5.0
P4SMAJ68A	P4SMAJ68CA	JZ	VZ	58.1	64.6	71.4	1.0	92.0	4.6	5.0
P4SMAJ75	P4SMAJ75C	RD	WD	60.7	67.5	82.5	1.0	108	3.9	5.0
P4SMAJ75A	P4SMAJ75CA	RG	WG	64.1	71.3	78.8	1.0	103	4.1	5.0
P4SMAJ82	P4SMAJ82C	RH	WH	66.4	73.8	90.2	1.0	118	3.6	5.0
P4SMAJ82A	P4SMAJ82CA	RM	WM	70.4	77.9	86.1	1.0	113	3.7	5.0
P4SMAJ91	P4SMAJ91C	RN	WN	73.7	81.9	100	1.0	131	3.2	5.0
P4SMAJ91A	P4SMAJ91CA	RP	WP	77.8	86.5	95.5	1.0	125	3.4	5.0
P4SMAJ100	P4SMAJ100C	RQ	WQ	81.0	90.0	110	1.0	144	2.9	5.0
P4SMAJ100A	P4SMAJ100CA	RT	WT	85.5	95.0	105	1.0	137	3.1	5.0
P4SMAJ110	P4SMAJ110C	RU	WU	89.2	99.0	121	1.0	158	2.7	5.0
P4SMAJ110A	P4SMAJ110CA	RV	WV	94.0	105	116	1.0	152	2.8	5.0
P4SMAJ120	P4SMAJ120C	RW	WW	97.2	108	132	1.0	173	2.4	5.0
P4SMAJ120A	P4SMAJ120CA	RX	WX	102	114	126	1.0	165	2.5	5.0
P4SMAJ130	P4SMAJ130C	RY	WY	105	117	143	1.0	187	2.2	5.0
P4SMAJ130A	P4SMAJ130CA	RZ	WZ	111	124	137	1.0	179	2.3	5.0
P4SMAJ150	P4SMAJ150C	SD	XD	121	135	165	1.0	215	2.0	5.0
P4SMAJ150A	P4SMAJ150CA	SE	XE	128	143	158	1.0	207	2.0	5.0
P4SMAJ160	P4SMAJ160C	SF	XF	130	144	176	1.0	230	1.8	5.0
P4SMAJ160A	P4SMAJ160CA	SG	XG	136	152	168	1.0	219	1.9	5.0
P4SMAJ170	P4SMAJ170C	SH	XH	138	153	187	1.0	244	1.7	5.0
P4SMAJ170A	P4SMAJ170CA	SK	XK	145	162	179	1.0	234	1.8	5.0
P4SMAJ180	P4SMAJ180C	SL	XL	146	162	198	1.0	258	1.6	5.0
P4SMAJ180A	P4SMAJ180CA	SM	XM	154	171	189	1.0	246	1.7	5.0
P4SMAJ200	P4SMAJ200C	SN	XN	162	180	220	1.0	287	1.5	5.0
P4SMAJ200A	P4SMAJ200CA	SP	XP	171	190	210	1.0	274	1.53	5.0
P4SMAJ220	P4SMAJ220C	SQ	XQ	175	198	242	1.0	344	1.16	5.0
P4SMAJ220A	P4SMAJ220CA	SR	XR	185	209	231	1.0	328	1.22	5.0
P4SMAJ250	P4SMAJ250C	SS	XS	202	225	275	1.0	360	1.1	5.0
P4SMAJ250A	P4SMAJ250CA	SV	XV	214	237	263	1.0	344	1.16	5.0
P4SMAJ300	P4SMAJ300C	ZD	YD	243	270	330	1.0	430	0.93	5.0
P4SMAJ300A	P4SMAJ300CA	ZG	YG	256	285	315	1.0	414	0.97	5.0
P4SMAJ350	P4SMAJ350C	ZH	YH	284	315	385	1.0	504	0.79	5.0
P4SMAJ350A	P4SMAJ350CA	ZK	YK	300	333	368	1.0	482	0.83	5.0
P4SMAJ400	P4SMAJ400C	ZL	YL	324	360	440	1.0	574	0.70	5.0
P4SMAJ400A	P4SMAJ400CA	ZM	YM	342	380	420	1.0	548	0.73	5.0
P4SMAJ440	P4SMAJ440C	ZN	YN	356	396	484	1.0	631	0.63	5.0
P4SMAJ440A	P4SMAJ440CA	ZP	YP	376	418	462	1.0	602	0.65	5.0

Ratings and Characteristic Curves T_A=25°C unless otherwise noted

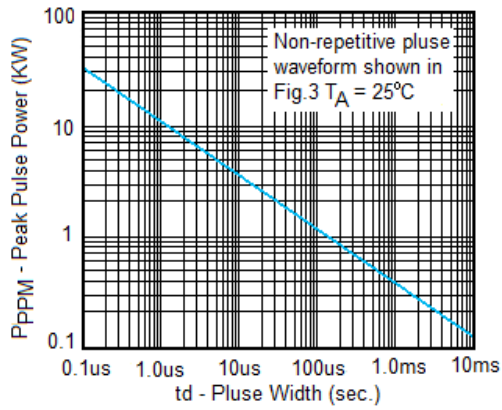


Fig. 1 Peak Pulse Power Rating

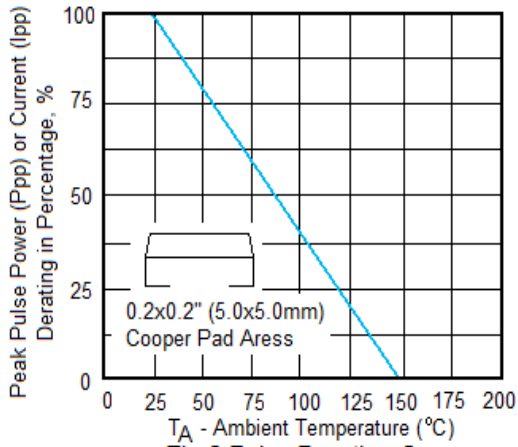


Fig.2 Pulse Derating Cure

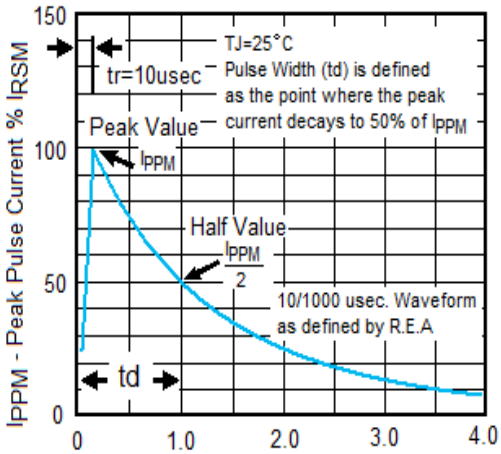


Fig.3 Pulse Waveform

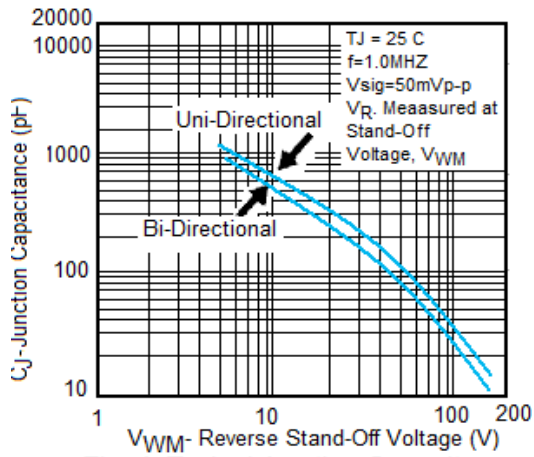


Fig. 4- Typical Junction Capacitance