Shanghai Lunsure Electronic Technology Co.,Ltd
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P4SMAJ5.0 THRU P4SMAJ170CA

400 Watt Transient Voltage Suppressors 5.0 to 170 Volts

Features

- For Surface Mount Applications
- Unidirectional And Bidirectional
- Low Inductance
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- For Bidirectional Devices Add “C” To The Suffix Of The Part Number: i.e. P4SMAJ5.0C or P4SMAJ5.0CA for 5% Tolerance
- P4SMAJ5.0~P4SMAJ170CA also can be named as SMAJ5.0~SMAJ170CA and have the same electrical spec .

Mechanical Data

- Case: JEDEC DO-214AC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band except bi-directional types

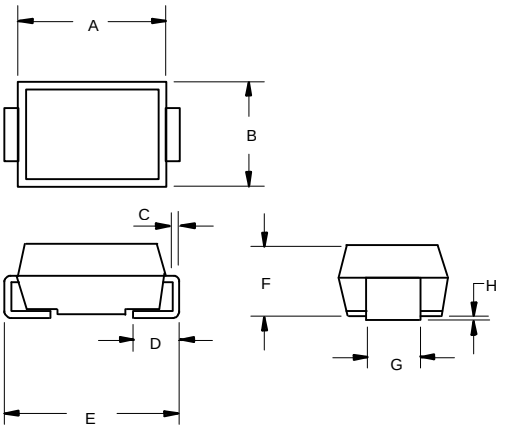
Maximum Rating:

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Typical Thermal Resistance: 25℃/W Junction to Ambient

Peak Pulse Current on 10/1000μs Waveform	I_{PPM}	See Table 1	Note 1
Peak Pulse Power Dissipation	P_{PPM}	Min 400 W	Note 1, 5
Steady State Power Dissipation	$P_{M(AV)}$	1.0 W	Note 2, 4
Peak Forward Surge Current	I_{FSM}	40A	Note:4

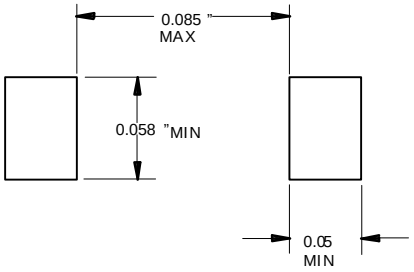
Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25℃ per Fig.2.
2. Mounted on 5.0mm^2 copper pads to each terminal.
3. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.
4. Lead temperature at T_L = 75℃.
5. Peak pulse power waveform is 10/1000μs.

DO-214AC
(SMAJ)(LEAD FRAME)



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.157	.181	4.00	4.60	
B	.098	.114	2.50	2.90	
C	.006	.012	0.152	0.305	
D	.030	.060	0.76	1.52	
E	.188	.208	4.80	5.28	
F	.078	.096	2.00	2.44	
G	.055	.062	1.40	1.60	
H	.002	.008	0.051	0.203	

SUGGESTED SOLDER PAD LAYOUT



P4SMAJ5.0 thru P4SMAJ170CA

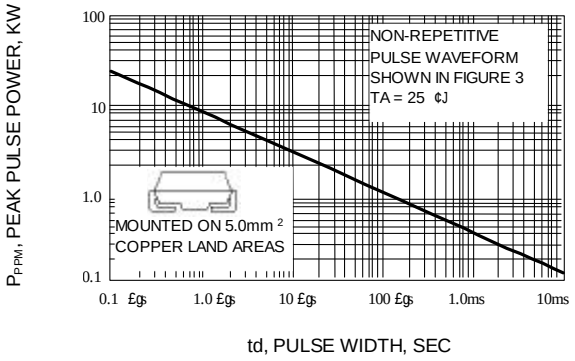


Fig. 1-PEAK PULSE POWER RATING CURVE

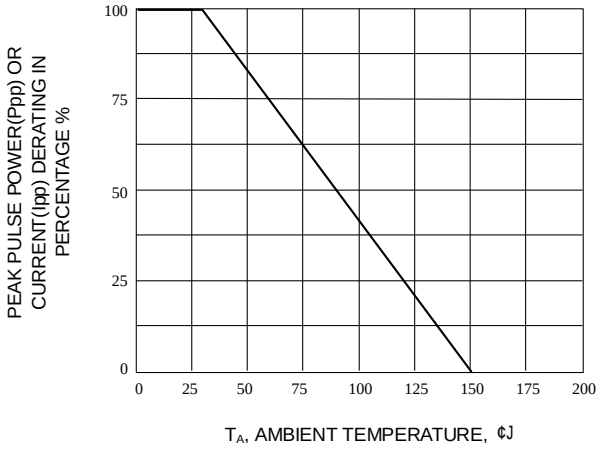


Fig. 2-PULSE RATING CURVE

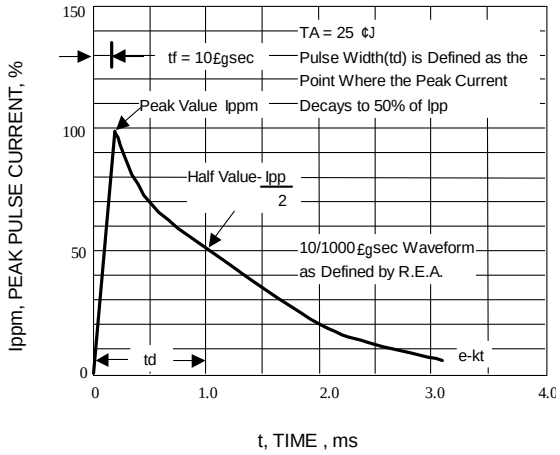


Fig. 3-PULSE WAVEFORM

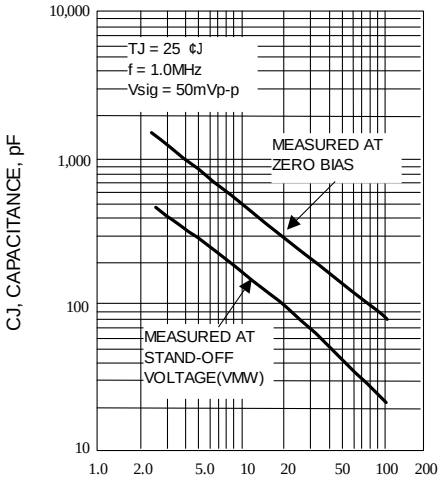


Fig. 4-TYPICAL JUNCTION CAPACITANCE

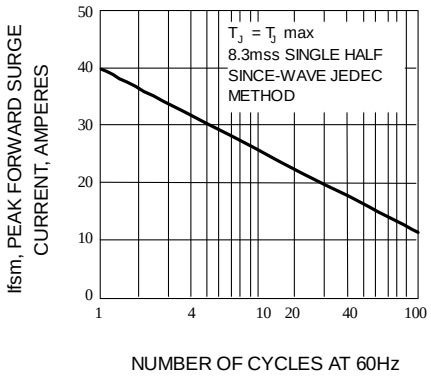


Fig. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

P4SMAJ5.0 thru P4SMAJ170CA

ELECTRICAL CHARACTERISTICS @25°C

PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) MIN	MAX	I_T (mA)	MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D (µA)	MARKING CODE 1	2
P4SMAJ5.0	5.0	6.40	7.30	10	9.6	41.6	800	AD	HD
P4SMAJ5.0A	5.0	6.40	7.00	10	9.2	43.5	800	AE	HE
P4SMAJ6.0	6.0	6.67	8.15	10	11.4	35.1	800	AF	HF
P4SMAJ6.0A	6.0	6.67	7.37	10	10.3	38.8	800	AG	HG
P4SMAJ6.5	6.5	7.22	8.82	10	12.3	32.5	500	AH	HH
P4SMAJ6.5A	6.5	7.22	7.98	10	11.2	35.7	500	AK	HK
P4SMAJ7.0	7.0	7.78	9.51	10	13.3	30.1	200	AL	HL
P4SMAJ7.0A	7.0	7.78	8.60	10	12.0	33.3	200	AM	HM
P4SMAJ7.5	7.5	8.33	10.2	1	14.3	28.0	100	AN	HN
P4SMAJ7.5A	7.5	8.33	9.21	1	12.9	31.0	100	AP	HP
P4SMAJ8.0	8.0	8.89	10.9	1	15.0	26.5	50	AQ	HQ
P4SMAJ8.0A	8.0	8.89	9.83	1	13.6	29.4	50	AR	HR
P4SMAJ8.5	8.5	9.44	11.5	1	15.9	25.1	10	AS	HS
P4SMAJ8.5A	8.5	9.44	10.4	1	14.4	27.7	10	AT	HT
P4SMAJ9.0	9.0	10.0	12.2	1	16.9	23.6	5	AU	HU
P4SMAJ9.0A	9.0	10.0	11.1	1	15.4	26.0	5	AV	HV
P4SMAJ10	10	11.1	13.6	1	18.8	21.2	5	AW	HW
P4SMAJ10A	10	11.1	12.3	1	17.0	23.5	5	AX	HX
P4SMAJ11	11	12.2	14.9	1	20.1	20.0	5	AY	HY
P4SMAJ11A	11	12.2	13.5	1	18.2	22.0	5	AZ	HZ
P4SMAJ12	12	13.3	16.3	1	22.0	18.1	5	BD	ID
P4SMAJ12A	12	13.3	14.7	1	19.9	20.1	5	BE	IE
P4SMAJ13	13	14.4	17.6	1	23.8	16.8	5	BF	IF
P4SMAJ13A	13	14.4	15.9	1	21.5	18.6	5	BG	IG
P4SMAJ14	14	15.6	19.1	1	25.8	15.5	5	BH	IH
P4SMAJ14A	14	15.6	17.2	1	23.2	17.2	5	BK	IK
P4SMAJ15	15	16.7	20.4	1	26.9	14.8	5	BL	IL
P4SMAJ15A	15	16.7	18.5	1	24.4	16.4	5	BM	IM
P4SMAJ16	16	17.8	21.8	1	28.8	13.8	5	BN	IN
P4SMAJ16A	16	17.8	19.7	1	26.0	15.3	5	BP	IP
P4SMAJ17	17	18.9	23.1	1	30.5	13.1	5	BQ	IQ
P4SMAJ17A	17	18.9	20.9	1	27.6	14.5	5	BR	IR
P4SMAJ18	18	20.0	24.4	1	32.2	12.4	5	BS	IS
P4SMAJ18A	18	20.0	22.1	1	29.2	13.7	5	BT	IT
P4SMAJ20	20	22.2	27.1	1	35.8	11.1	5	BU	IU
P4SMAJ20A	20	22.2	24.5	1	32.4	12.3	5	BV	IV

P4SMAJ5.0 thru P4SMAJ170CA

ELECTRICAL CHARACTERISTICS @25°C

PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) MIN	MAX	I_T (mA)	MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D (µA)	MARKING CODE 1	2
P4SMAJ22	22	24.4	29.8	1	39.4	10.1	5	BW	IW
P4SMAJ22A	22	24.4	26.9	1	35.5	11.2	5	BX	IX
P4SMAJ24	24	26.7	32.6	1	43.0	9.3	5	BY	IY
P4SMAJ24A	24	26.7	29.5	1	38.9	10.3	5	BZ	IZ
P4SMAJ26	26	28.9	35.3	1	46.6	8.6	5	CD	JD
P4SMAJ26A	26	28.9	31.9	1	42.1	9.5	5	CE	JE
P4SMAJ28	28	31.1	38.0	1	50.0	8.0	5	CF	JF
P4SMAJ28A	28	31.1	34.4	1	45.4	8.8	5	CG	JG
P4SMAJ30	30	33.3	40.7	1	53.5	7.5	5	CH	JH
P4SMAJ30A	30	33.3	36.8	1	48.4	8.3	5	CK	JK
P4SMAJ33	33	36.7	44.9	1	59.0	6.8	5	CL	JL
P4SMAJ33A	33	36.7	40.6	1	53.3	7.5	5	CM	JM
P4SMAJ36	36	40.0	48.9	1	64.3	6.2	5	CN	JN
P4SMAJ36A	36	40.0	44.2	1	58.1	6.9	5	CP	JP
P4SMAJ40	40	44.4	54.3	1	71.4	5.6	5	CQ	JQ
P4SMAJ40A	40	44.4	49.1	1	64.5	6.2	5	CR	JR
P4SMAJ43	43	47.8	58.4	1	76.7	5.2	5	CS	JS
P4SMAJ43A	43	47.8	52.8	1	69.4	5.7	5	CT	JT
P4SMAJ45	45	50.0	61.1	1	80.3	5.0	5	CU	JU
P4SMAJ45A	45	50.0	55.3	1	72.7	5.5	5	CV	JV
P4SMAJ48	48	53.3	65.1	1	85.5	4.7	5	CW	JW
P4SMAJ48A	48	53.3	58.9	1	77.4	5.2	5	CX	JX
P4SMAJ51	51	56.7	69.3	1	91.1	4.4	5	CY	JY
P4SMAJ51A	51	56.7	62.7	1	82.4	4.9	5	CZ	JZ
P4SMAJ54	54	60.0	73.3	1	96.3	4.2	5	RD	
P4SMAJ54A	54	60.0	66.3	1	87.1	4.6	5	RE	
P4SMAJ58	58	64.4	78.7	1	103	3.9	5	RF	
P4SMAJ58A	58	64.4	71.2	1	93.6	4.3	5	RG	
P4SMAJ60	60	66.7	81.5	1	107	3.7	5	RH	
P4SMAJ60A	60	66.7	73.7	1	96.8	4.1	5	RK	
P4SMAJ64	64	71.1	86.9	1	114	3.5	5	RL	
P4SMAJ64A	64	71.1	78.6	1	103	3.9	5	RM	
P4SMAJ70	70	77.8	95.1	1	125	3.2	5	RN	
P4SMAJ70A	70	77.8	86.0	1	113	3.5	5	RP	
P4SMAJ75	75	83.3	102	1	134	3.0	5	RQ	
P4SMAJ75A	75	83.3	92.1	1	121	3.3	5	RR	
P4SMAJ78	78	86.7	106	1	139	2.9	5	RS	
P4SMAJ78A	78	86.7	95.8	1	126	2.2	5	RT	
P4SMAJ85	85	94.4	115	1	151	2.6	5	RU	
P4SMAJ85A	85	94.4	104	1	137	2.9	5	RV	
P4SMAJ90	90	100	122	1	160	2.5	5	RW	
P4SMAJ90A	90	100	111	1	146	2.7	5	RX	
P4SMAJ100	100	111	136	1	179	2.2	5	RY	
P4SMAJ100A	100	111	123	1	162	2.5	5	RZ	
P4SMAJ110	110	122	149	1	196	2.0	5	SD	
P4SMAJ110A	110	122	135	1	177	2.3	5	SE	
P4SMAJ120	120	133	163	1	214	1.9	5	SF	
P4SMAJ120A	120	133	147	1	193	2.0	5	SG	
P4SMAJ130	130	144	176	1	231	1.7	5	SH	
P4SMAJ130A	130	144	159	1	209	1.9	5	SK	
P4SMAJ150	150	167	204	1	268	1.5	5	SL	
P4SMAJ150A	150	167	185	1	243	1.6	5	SM	
P4SMAJ160	160	178	218	1	287	1.4	5	SN	
P4SMAJ160A	160	178	197	1	259	1.5	5	SP	
P4SMAJ170	170	189	231	1	304	1.3	5	SQ	
P4SMAJ170A	170	189	209	1	275	1.4	5	SR	

P4SMAJ5.0 thru P4SMAJ170CA

ELECTRICAL CHARACTERISTICS @25°C

PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP}	PEAK PULSE CURRENT I_{PP}	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D	MARKING CODE	
	(VOLTS)	MIN	MAX	I_T (mA)	(VOLTS)	(AMPS)	(μA)	1	2
P4SMAJ5.0C	5.0	6.40	7.30	10	9.6	41.6	1600	WD	TD
P4SMAJ5.0CA	5.0	6.40	7.00	10	9.2	43.5	1600	WE	TE
P4SMAJ6.0C	6.0	6.67	8.15	10	11.4	35.1	1600	WF	TF
P4SMAJ6.0CA	6.0	6.67	7.37	10	10.3	38.8	1600	WG	TG
P4SMAJ6.5C	6.5	7.22	8.82	10	12.3	32.5	1000	WH	TH
P4SMAJ6.5CA	6.5	7.22	7.98	10	11.2	35.7	1000	WK	TK
P4SMAJ7.0C	7.0	7.78	9.51	10	13.3	30.1	400	WL	TL
P4SMAJ7.0CA	7.0	7.78	8.60	10	12.0	33.3	400	WM	TM
P4SMAJ7.5C	7.5	8.33	10.2	1	14.3	28.0	200	WN	TN
P4SMAJ7.5CA	7.5	8.33	9.21	1	12.9	31.0	200	WP	TP
P4SMAJ8.0C	8.0	8.89	10.9	1	15.0	26.5	100	WQ	TQ
P4SMAJ8.0CA	8.0	8.89	9.83	1	13.6	29.4	100	WR	TR
P4SMAJ8.5C	8.5	9.44	11.5	1	15.9	25.1	20	WS	TS
P4SMAJ8.5CA	8.5	9.44	10.4	1	14.4	27.7	20	WT	TT
P4SMAJ9.0C	9.0	10.0	12.2	1	16.9	23.6	10	WU	TU
P4SMAJ9.0CA	9.0	10.0	11.1	1	15.4	26.0	10	WV	TV
P4SMAJ10C	10	11.1	13.6	1	18.8	21.2	5	WW	TW
P4SMAJ10CA	10	11.1	12.3	1	17.0	23.5	5	WX	TX
P4SMAJ11C	11	12.2	14.9	1	20.1	20.0	5	WY	TY
P4SMAJ11CA	11	12.2	13.5	1	18.2	22.0	5	WZ	TZ
P4SMAJ12C	12	13.3	16.3	1	22.0	18.1	5	XD	UD
P4SMAJ12CA	12	13.3	14.7	1	19.9	20.1	5	XE	UE
P4SMAJ13C	13	14.4	17.6	1	23.8	16.8	5	XF	UF
P4SMAJ13CA	13	14.4	15.9	1	21.5	18.6	5	XG	UG
P4SMAJ14C	14	15.6	19.1	1	25.8	15.5	5	XH	UH
P4SMAJ14CA	14	15.6	17.2	1	23.2	17.2	5	XK	UK
P4SMAJ15C	15	16.7	20.4	1	26.9	14.8	5	XL	UL
P4SMAJ15CA	15	16.7	18.5	1	24.4	16.4	5	XM	UM
P4SMAJ16C	16	17.8	21.8	1	28.8	13.8	5	XN	UN
P4SMAJ16CA	16	17.8	19.7	1	26.0	15.3	5	XP	UP
P4SMAJ17C	17	18.9	23.1	1	30.5	13.1	5	XQ	UQ
P4SMAJ17CA	17	18.9	20.9	1	27.6	14.5	5	XR	UR
P4SMAJ18C	18	20.0	24.4	1	32.2	12.4	5	XS	US
P4SMAJ18CA	18	20.0	22.1	1	29.2	13.7	5	XT	UT
P4SMAJ20C	20	22.2	27.1	1	35.8	11.1	5	XU	UU
P4SMAJ20CA	20	22.2	24.5	1	32.4	12.3	5	XV	UV

P4SMAJ5.0 thru P4SMAJ170CA

ELECTRICAL CHARACTERISTICS @25°C

PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T (VOLTS) MIN	MAX	I_T (mA)	MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @V_{WM} I_D (µA)	MARKING CODE 1	2
P4SMAJ22C	22	24.4	29.8	1	39.4	10.1	5	XW	UW
P4SMAJ22CA	22	24.4	26.9	1	35.5	11.2	5	XX	UX
P4SMAJ24C	24	26.7	32.6	1	43.0	9.3	5	XY	UY
P4SMAJ24CA	24	26.7	29.5	1	38.9	10.3	5	XZ	UZ
P4SMAJ26C	26	28.9	35.3	1	46.6	8.6	5	YD	VD
P4SMAJ26CA	26	28.9	31.9	1	42.1	9.5	5	YE	VE
P4SMAJ28C	28	31.1	38.0	1	50.0	8.0	5	YF	VF
P4SMAJ28CA	28	31.1	34.4	1	45.4	8.8	5	YG	VG
P4SMAJ30C	30	33.3	40.7	1	53.5	7.5	5	YH	VH
P4SMAJ30CA	30	33.3	36.8	1	48.4	8.3	5	YK	VK
P4SMAJ33C	33	36.7	44.9	1	59.0	6.8	5	YL	VL
P4SMAJ33CA	33	36.7	40.6	1	53.3	7.5	5	YM	VM
P4SMAJ36C	36	40.0	48.9	1	64.3	6.2	5	YN	VN
P4SMAJ36CA	36	40.0	44.2	1	58.1	6.9	5	YP	VP
P4SMAJ40C	40	44.4	54.3	1	71.4	5.6	5	YQ	VQ
P4SMAJ40CA	40	44.4	49.1	1	64.5	6.2	5	YR	VR
P4SMAJ43C	43	47.8	58.4	1	76.7	5.2	5	YS	VS
P4SMAJ43CA	43	47.8	52.8	1	69.4	5.7	5	YT	VT
P4SMAJ45C	45	50.0	61.1	1	80.3	5.0	5	YU	VU
P4SMAJ45CA	45	50.0	55.3	1	72.7	5.5	5	YV	VV
P4SMAJ48C	48	53.3	65.1	1	85.5	4.7	5	YW	VW
P4SMAJ48CA	48	53.3	58.9	1	77.4	5.2	5	YX	VX
P4SMAJ51C	51	56.7	69.3	1	91.1	4.4	5	YY	VY
P4SMAJ51CA	51	56.7	62.7	1	82.4	4.9	5	YZ	VZ
P4SMAJ54C	54	60.0	73.3	1	96.3	4.2	5	ZD	WD
P4SMAJ54CA	54	60.0	66.3	1	87.1	4.6	5	ZE	WE
P4SMAJ58C	58	64.4	78.7	1	103	3.9	5	ZF	WF
P4SMAJ58CA	58	64.4	71.2	1	93.6	4.3	5	ZG	WG
P4SMAJ60C	60	66.7	81.5	1	107	3.7	5	ZH	WH
P4SMAJ60CA	60	66.7	73.7	1	96.8	4.1	5	ZK	WK
P4SMAJ64C	64	71.1	86.9	1	114	3.5	5	ZL	WL
P4SMAJ64CA	64	71.1	78.6	1	103	3.9	5	ZM	WM
P4SMAJ70C	70	77.8	95.1	1	125	3.2	5	ZN	WN
P4SMAJ70CA	70	77.8	86.0	1	113	3.5	5	ZP	WP
P4SMAJ75C	75	83.3	102	1	134	3.0	5	ZQ	WQ
P4SMAJ75CA	75	83.3	92.1	1	121	3.3	5	ZR	WR
P4SMAJ78C	78	86.7	106	1	139	2.9	5	ZS	WS
P4SMAJ78CA	78	86.7	95.8	1	126	2.2	5	ZT	WT
P4SMAJ85C	85	94.4	115	1	151	2.6	5	ZU	WU
P4SMAJ85CA	85	94.4	104	1	137	2.9	5	ZV	WV
P4SMAJ90C	90	100	122	1	160	2.5	5	ZW	WW
P4SMAJ90CA	90	100	111	1	146	2.7	5	ZX	WX
P4SMAJ100C	100	111	136	1	179	2.2	5	ZY	WY
P4SMAJ100CA	100	111	123	1	162	2.5	5	ZZ	WZ
P4SMAJ110C	110	122	149	1	196	2.0	5	VD	XD
P4SMAJ110CA	110	122	135	1	177	2.3	5	VE	XE
P4SMAJ120C	120	133	163	1	214	1.9	5	VF	XF
P4SMAJ120CA	120	133	147	1	193	2.0	5	VG	XG
P4SMAJ130C	130	144	176	1	231	1.7	5	VH	XH
P4SMAJ130CA	130	144	159	1	209	1.9	5	VK	XK
P4SMAJ150C	150	167	204	1	268	1.5	5	VL	XL
P4SMAJ150CA	150	167	185	1	243	1.6	5	VM	XM
P4SMAJ160C	160	178	218	1	287	1.4	5	VN	XN
P4SMAJ160CA	160	178	197	1	259	1.5	5	VP	XP
P4SMAJ170C	170	189	231	1	304	1.3	5	VQ	XQ
P4SMAJ170CA	170	189	209	1	275	1.4	5	VR	XR