

Power TVS in DO-214AC/SMA

Features

- Glass passivated chip
- 400W peak pulse power(10/1000us)
- High accuracy, 5% tolerance
- Uni and Bidirectional unit
- Low clamping voltage
- Low Leakage current
- Very fast response time

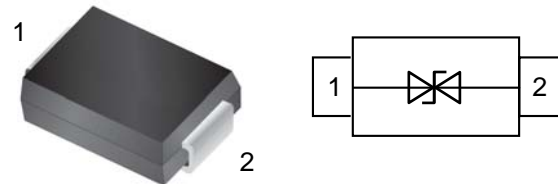
Mechanical Data

- **Case:** DO-214AC/SMA (plastic package).
RoHS compliant
- **Molding Compound Flammability Rating:** UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

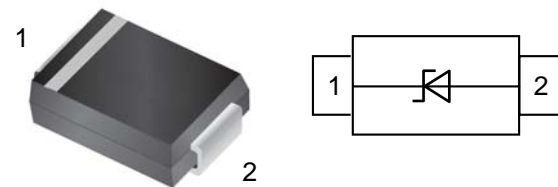


RoHS
COMPLIANT
HALOGEN
FREE

Bidirectional



Unidirectional



Applications

- Computers
- Telecom system
- Industrial equipments
- Consumer electronic applications
- Other VCC bus and I/O interfaces

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000us waveform ⁽¹⁾	P _{PP}	400	W
Maximum peak reverse pulse current a 10/1000us waveform ⁽¹⁾	I _{PP}	See Next Table	A
Peak forward surge current 8.3ms single half sine-wave ⁽²⁾	I _{FSM}	40	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Notes:

- 1.Non-repetitive current pulse,per Fig.5 and detated above TA=25°C per Fig.1
- 2.Measured on 8.3ms single half sine-wave,or equivalent square wave,duty cycle=4 pulses per minute maximum

Electrical Characteristics

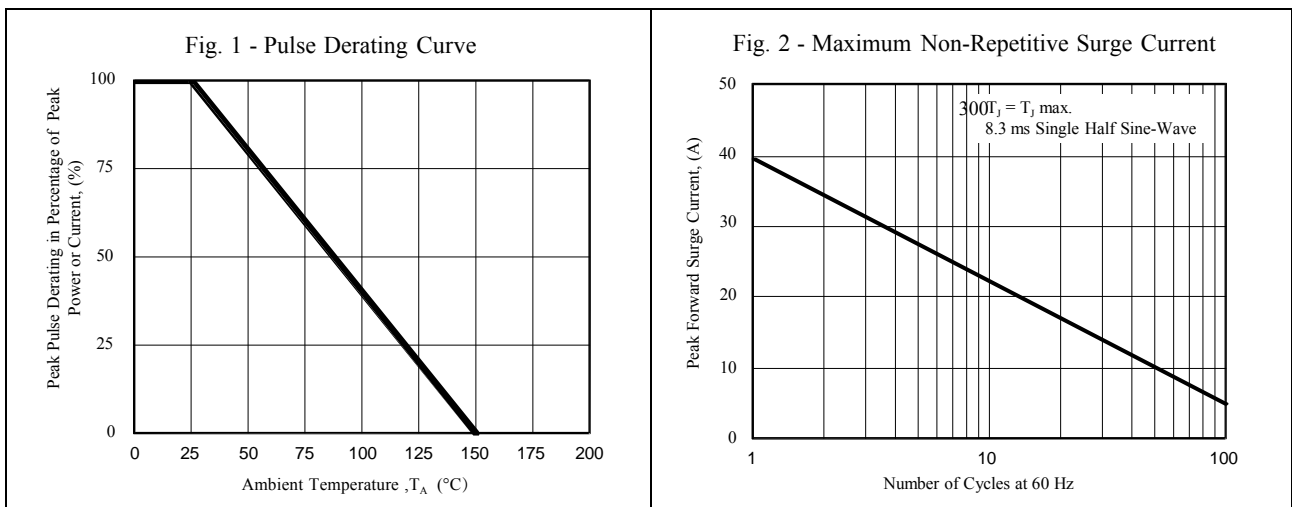
(T_A = 25 °C unless otherwise specified)

Part Number	Marking	Direction	Maximum Working Voltage V _{RWM} (V)	Maximum Reverse Current@V _{RWM} I _R max(μA)	Breakdown Voltage@I _T			Peak Surge Current I _{PP} (A)	Maximum Clamping Voltage@I _{PP} V _C (V)
					V _{BR} min(V)	V _{BR} max(V)	I _T (mA)		
P4SMA6.8A	6.8A	Uni-Dir	5.80	1000	6.45	7.14	10	39.0	10.5
P4SMA6.8CA	6.8C	Bi-Dir	5.80	1000	6.45	7.14	10	39.0	10.5
P4SMA7.5A	7.5A	Uni-Dir	6.40	500	7.13	7.88	10	36.3	11.3
P4SMA7.5CA	7.5C	Bi-Dir	6.40	500	7.13	7.88	10	36.3	11.3
P4SMA8.2A	8.2A	Uni-Dir	7.02	200	7.79	8.61	10	33.9	12.1
P4SMA8.2CA	8.2C	Bi-Dir	7.02	200	7.79	8.61	10	33.9	12.1
P4SMA9.1A	9.1A	Uni-Dir	7.78	50	8.65	9.55	1	30.6	13.4
P4SMA9.1CA	9.1C	Bi-Dir	7.78	50	8.65	9.55	1	30.6	13.4
P4SMA10A	10A	Uni-Dir	8.55	10	9.50	10.50	1	28.3	14.5
P4SMA10CA	10C	Bi-Dir	8.55	10	9.50	10.50	1	28.3	14.5
P4SMA11A	11A	Uni-Dir	9.40	5	10.50	11.60	1	26.3	15.6
P4SMA11CA	11C	Bi-Dir	9.40	5	10.50	11.60	1	26.3	15.6
P4SMA12A	12A	Uni-Dir	10.20	5	11.40	12.60	1	24.6	16.7
P4SMA12CA	12C	Bi-Dir	10.20	5	11.40	12.60	1	24.6	16.7
P4SMA13A	13A	Uni-Dir	11.10	1	12.40	13.70	1	22.5	18.2
P4SMA13CA	13C	Bi-Dir	11.10	1	12.40	13.70	1	22.5	18.2
P4SMA15A	15A	Uni-Dir	12.80	1	14.30	15.80	1	19.3	21.2
P4SMA15CA	15C	Bi-Dir	12.80	1	14.30	15.80	1	19.3	21.2
P4SMA16A	16A	Uni-Dir	13.60	1	15.20	16.80	1	18.2	22.5
P4SMA16CA	16C	Bi-Dir	13.60	1	15.20	16.80	1	18.2	22.5
P4SMA18A	18A	Uni-Dir	15.30	1	17.10	18.90	1	16.1	25.2
P4SMA18CA	18C	Bi-Dir	15.30	1	17.10	18.90	1	16.1	25.2
P4SMA20A	20A	Uni-Dir	17.10	1	19.00	21.00	1	14.8	27.7
P4SMA20CA	20C	Bi-Dir	17.10	1	19.00	21.00	1	14.8	27.7
P4SMA22A	22A	Uni-Dir	18.80	1	20.90	23.10	1	13.4	30.6
P4SMA22CA	22C	Bi-Dir	18.80	1	20.90	23.10	1	13.4	30.6
P4SMA24A	24A	Uni-Dir	20.50	1	22.80	25.20	1	12.3	33.2
P4SMA24CA	24C	Bi-Dir	20.50	1	22.80	25.20	1	12.3	33.2
P4SMA27A	27A	Uni-Dir	23.10	1	25.70	28.40	1	10.9	37.5
P4SMA27CA	27C	Bi-Dir	23.10	1	25.70	28.40	1	10.9	37.5
P4SMA30A	30A	Uni-Dir	25.60	1	28.50	31.50	1	9.9	41.4
P4SMA30CA	30C	Bi-Dir	25.60	1	28.50	31.50	1	9.9	41.4
P4SMA33A	33A	Uni-Dir	28.20	1	31.40	34.70	1	9.0	45.7
P4SMA33CA	33C	Bi-Dir	28.20	1	31.40	34.70	1	9.0	45.7
P4SMA36A	36A	Uni-Dir	30.80	1	34.20	37.80	1	8.2	49.9
P4SMA36CA	36C	Bi-Dir	30.80	1	34.20	37.80	1	8.2	49.9
P4SMA39A	39A	Uni-Dir	33.30	1	37.10	41.00	1	7.6	53.9
P4SMA39CA	39C	Bi-Dir	33.30	1	37.10	41.00	1	7.6	53.9

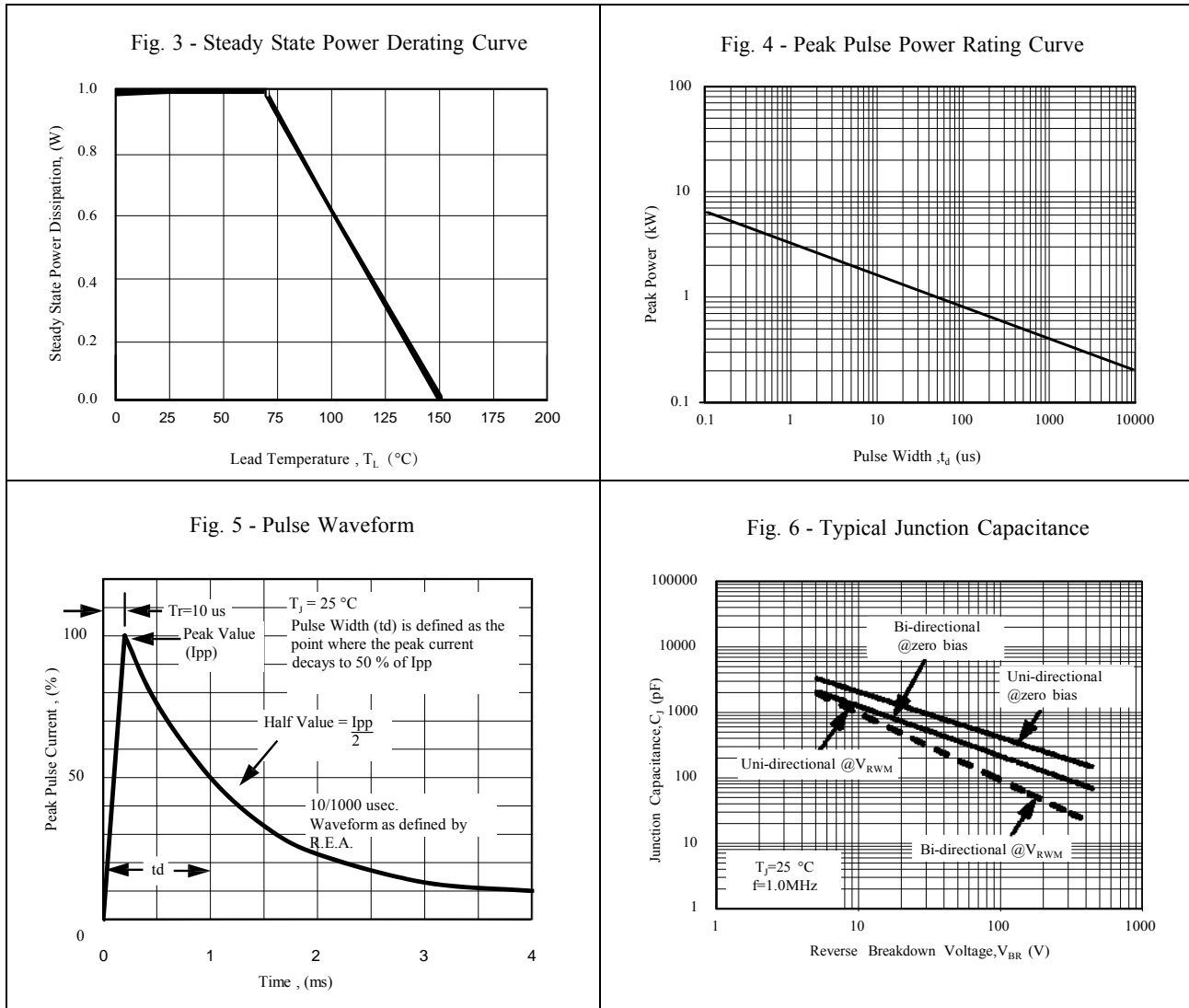
Part Number	Marking	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@ V_{RWM} I_R max(μ A)	Breakdown Voltage@ I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@ I_{PP} V_C (V)
					V_{BR} min(V)	V_{BR} max(V)	I_T (mA)		
P4SMA43A	43A	Uni-Dir	36.80	1	40.90	45.20	1	6.9	59.3
P4SMA43CA	43C	Bi-Dir	36.80	1	40.90	45.20	1	6.9	59.3
P4SMA47A	47A	Uni-Dir	40.20	1	44.70	49.40	1	6.3	64.8
P4SMA47CA	47C	Bi-Dir	40.20	1	44.70	49.40	1	6.3	64.8
P4SMA51A	51A	Uni-Dir	43.60	1	48.50	53.60	1	5.8	70.1
P4SMA51CA	51C	Bi-Dir	43.60	1	48.50	53.60	1	5.8	70.1
P4SMA56A	56A	Uni-Dir	47.80	1	53.20	58.80	1	5.3	77.0
P4SMA56CA	56C	Bi-Dir	47.80	1	53.20	58.80	1	5.3	77.0
P4SMA62A	62A	Uni-Dir	53.00	1	58.90	65.10	1	4.8	85.0
P4SMA62CA	62C	Bi-Dir	53.00	1	58.90	65.10	1	4.8	85.0
P4SMA68A	68A	Uni-Dir	58.10	1	64.60	71.40	1	4.5	92.0
P4SMA68CA	68C	Bi-Dir	58.10	1	64.60	71.40	1	4.5	92.0
P4SMA75A	75A	Uni-Dir	64.10	1	71.30	78.80	1	4.0	103.0
P4SMA75CA	75C	Bi-Dir	64.10	1	71.30	78.80	1	4.0	103.0
P4SMA82A	82A	Uni-Dir	70.10	1	77.90	86.10	1	3.6	113.0
P4SMA82CA	82C	Bi-Dir	70.10	1	77.90	86.10	1	3.6	113.0
P4SMA91A	91A	Uni-Dir	77.80	1	86.50	95.50	1	3.3	125.0
P4SMA91CA	91C	Bi-Dir	77.80	1	86.50	95.50	1	3.3	125.0
P4SMA100A	100A	Uni-Dir	85.50	1	95.00	105.00	1	3.0	137.0
P4SMA100CA	100C	Bi-Dir	85.50	1	95.00	105.00	1	3.0	137.0
P4SMA110A	110A	Uni-Dir	94.00	1	105.00	116.00	1	2.7	152.0
P4SMA110CA	110C	Bi-Dir	94.00	1	105.00	116.00	1	2.7	152.0
P4SMA120A	120A	Uni-Dir	102.00	1	114.00	126.00	1	2.5	165.0
P4SMA120CA	120C	Bi-Dir	102.00	1	114.00	126.00	1	2.5	165.0
P4SMA130A	130A	Uni-Dir	111.00	1	124.00	137.00	1	2.3	179.0
P4SMA130CA	130C	Bi-Dir	111.00	1	124.00	137.00	1	2.3	179.0
P4SMA150A	150A	Uni-Dir	128.00	1	143.00	158.00	1	2.0	207.0
P4SMA150CA	150C	Bi-Dir	128.00	1	143.00	158.00	1	2.0	207.0
P4SMA160A	160A	Uni-Dir	136.00	1	152.00	168.00	1	1.9	219.0
P4SMA160CA	160C	Bi-Dir	136.00	1	152.00	168.00	1	1.9	219.0
P4SMA170A	170A	Uni-Dir	145.00	1	162.00	179.00	1	1.8	234.0
P4SMA170CA	170C	Bi-Dir	145.00	1	162.00	179.00	1	1.8	234.0
P4SMA180A	180A	Uni-Dir	154.00	1	171.00	189.00	1	1.7	246.0
P4SMA180CA	180C	Bi-Dir	154.00	1	171.00	189.00	1	1.7	246.0
P4SMA200A	200A	Uni-Dir	171.00	1	190.00	210.00	1	1.5	274.0
P4SMA200CA	200C	Bi-Dir	171.00	1	190.00	210.00	1	1.5	274.0
P4SMA220A	220A	Uni-Dir	185.00	1	209.00	231.00	1	1.3	328.0
P4SMA220CA	220C	Bi-Dir	185.00	1	209.00	231.00	1	1.3	328.0

Part Number	Marking	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@ V_{RWM} I_R max(uA)	Breakdown Voltage@ I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@ I_{PP} V_C (V)
					V_{BR} min(V)	V_{BR} max(V)	I_T (mA)		
P4SMA250A	250A	Uni-Dir	214.00	1	237.00	263.00	1	1.2	344.00
P4SMA250CA	250C	Bi-Dir	214.00	1	237.00	263.00	1	1.2	344.00
P4SMA300A	300A	Uni-Dir	256.00	1	285.00	315.00	1	1.0	414.00
P4SMA300CA	300C	Bi-Dir	256.00	1	285.00	315.00	1	1.0	414.00
P4SMA350A	350A	Uni-Dir	300.00	1	332.00	368.00	1	0.9	482.00
P4SMA350CA	350C	Bi-Dir	300.00	1	332.00	368.00	1	0.9	482.00
P4SMA400A	400A	Uni-Dir	342.00	1	380.00	420.00	1	0.8	548.00
P4SMA400CA	400C	Bi-Dir	342.00	1	380.00	420.00	1	0.8	548.00
P4SMA440A	440A	Uni-Dir	376.00	1	418.00	462.00	1	0.7	602.00
P4SMA440CA	440C	Bi-Dir	376.00	1	418.00	462.00	1	0.7	602.00
P4SMA480A	480A	Uni-Dir	408.00	1	456.00	504.00	1	0.6	658.00
P4SMA480CA	480C	Bi-Dir	408.00	1	456.00	504.00	1	0.6	658.00
P4SMA510A	510A	Uni-Dir	434.00	1	485.00	535.00	1	0.6	698.00
P4SMA510CA	510C	Bi-Dir	434.00	1	485.00	535.00	1	0.6	698.00
P4SMA530A	530A	Uni-Dir	450.00	1	503.50	556.50	1	0.6	725.00
P4SMA530CA	530C	Bi-Dir	450.00	1	503.50	556.50	1	0.6	725.00
P4SMA540A	540A	Uni-Dir	459.00	1	513.00	567.00	1	0.5	740.00
P4SMA540CA	540C	Bi-Dir	459.00	1	513.00	567.00	1	0.5	740.00
P4SMA550A	550A	Uni-Dir	467.00	1	522.50	557.50	1	0.5	760.00
P4SMA550CA	550C	Bi-Dir	467.00	1	522.50	557.50	1	0.5	760.00

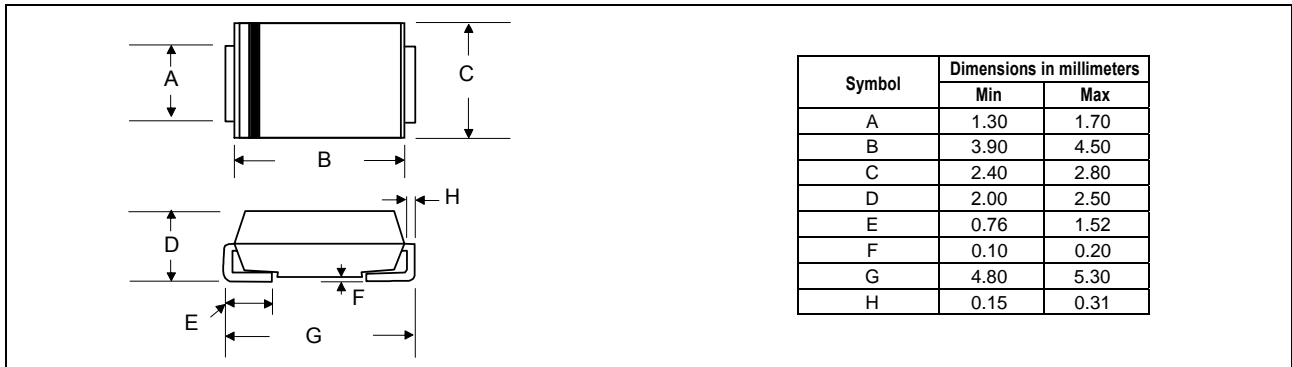
Typical Characteristics ($T_{amb} = 25^\circ\text{C}$ unless otherwise specified)



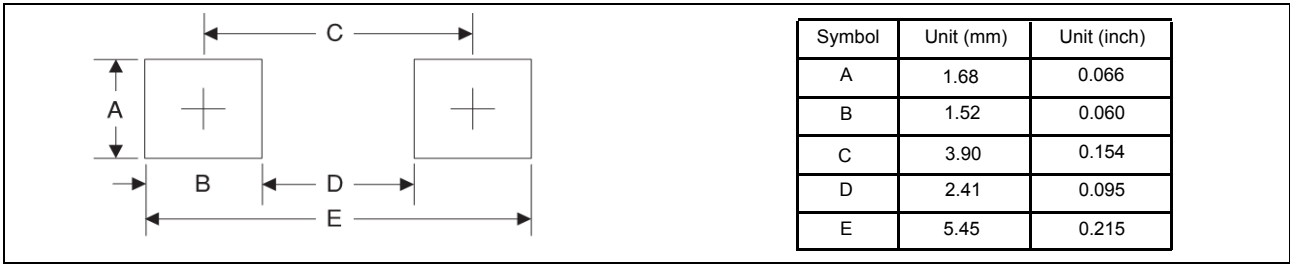
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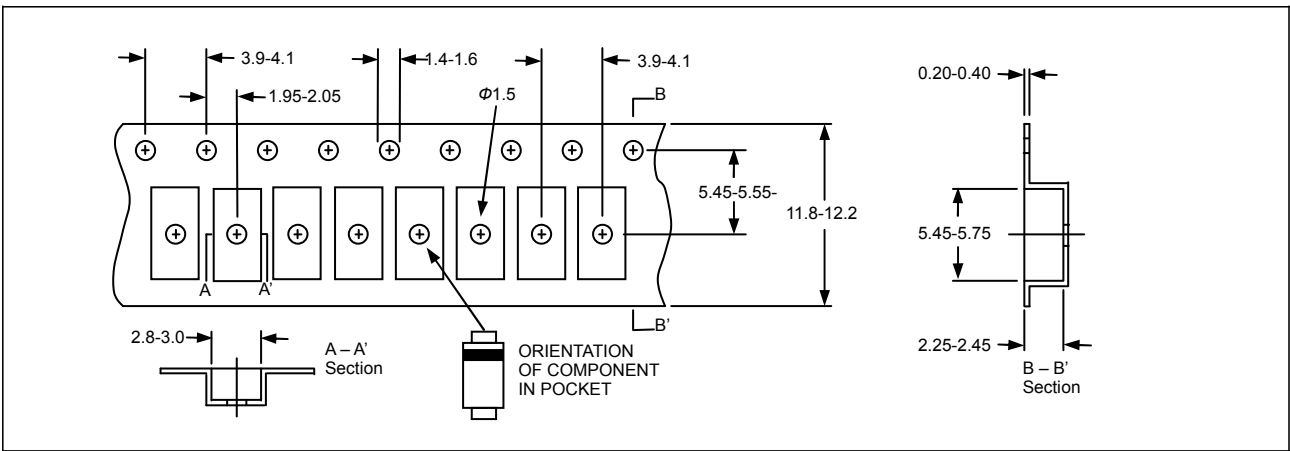
Package Dimensions



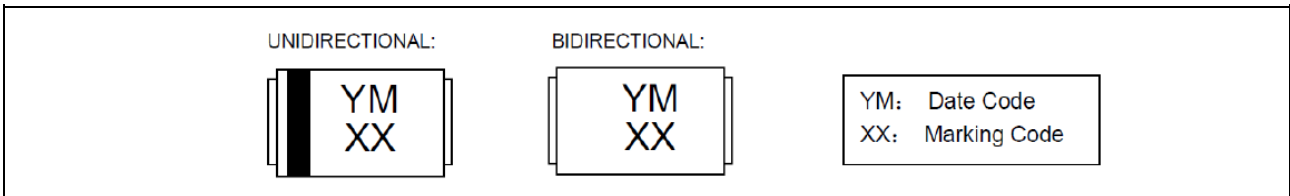
PAD Dimensions



Package Information



Marking



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
P4SMA Series	DO-214AC/SMA	Tape and reel	7500pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
23-May-2020	1.0	Initial release

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