

## Power TVS in DO-214AC/SMA

### Features

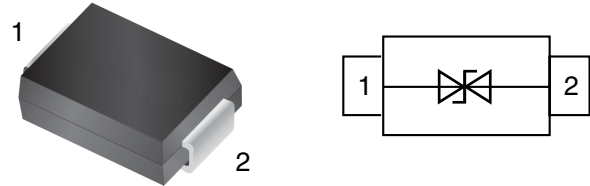
- Glass passivated chip
- 600W peak pulse power(10/1000us)
- High accuracy, 5% tolerance
- Uni and Bidirectional unit
- Low clamping voltage
- Low Leakage current
- Very fast response time
- JESD22-A114-B ESD Voltage:HBM 15KV
- JEDEC EIA/JESD22-C101F ESD Voltage:CDM 500V
- JEDEC EIA/JESD22-A115 ESD Voltage:MM 400V
- ESD-immunity acc. IEC 61000-4-2 ±30KV contact ±30KV air
- Base P/N-HM AEC-Q101 qualified

### Mechanical Data

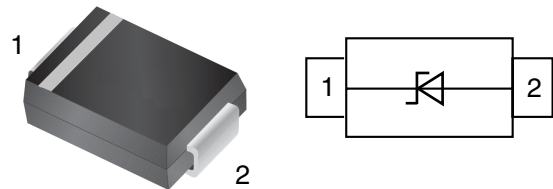
- Case: DO-214AC/SMA (plastic package).  
RoHS compliant
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:  
260 °C/10 sec. at terminals



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 <sup>(1)</sup>	P <sub>PP</sub>	600	W
Maximum peak reverse pulse current a 10/1000us waveform <sup>(1)</sup>	I <sub>PP</sub>	See Next Table	A
Peak forward surge current 8.3ms single half sine-wave <sup>(2)</sup>	I <sub>FSM</sub>	100	A
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-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

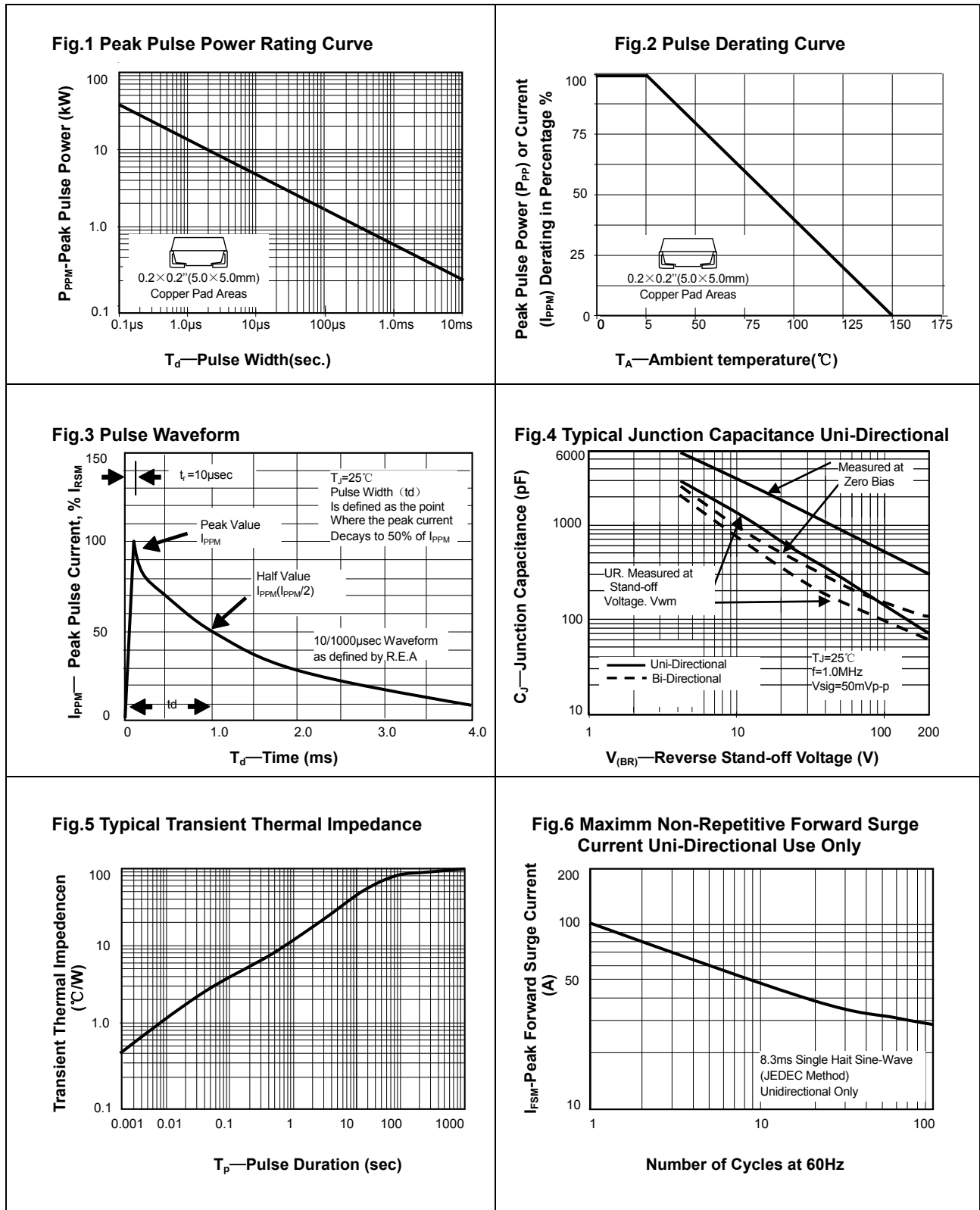
(T<sub>A</sub> = 25 °C unless otherwise specified)

Part No.	Device marking code		Breakdown voltage V <sub>(BR)</sub> (Volts) <sup>(1)</sup>		Test current at I <sub>T</sub> (mA)	Stand-off voltage V <sub>WM</sub> (Volts)	Maximum reverse leakage at V <sub>WM</sub> I <sub>b</sub> <sup>(3)</sup> (uA)	Maximum peak pulse current I <sub>PPM</sub> <sup>(2)</sup> (A)	Maximum clamping voltage at I <sub>PPM</sub> V <sub>C</sub> (Volts)	Maximum temperature coefficient of V <sub>(BR)</sub> (%/°C)
	UNI	BI	Min.	Max.						
P6SMA6.8A	6V8A	6V8C	6.45	7.14	10	5.80	1000	57.1	10.5	0.057
P6SMA7.5A	7V5A	7V5C	7.13	7.88	10	6.40	500	53.1	11.3	0.061
P6SMA8.2A	8V2A	8V2C	7.79	8.61	10	7.02	200	49.6	12.1	0.065
P6SMA9.1A	9V1A	9V1C	8.65	9.55	1.0	7.78	50	44.8	13.4	0.068
P6SMA10A	10A	10C	9.50	10.5	1.0	8.55	10	41.4	14.5	0.073
P6SMA11A	11A	11C	10.5	11.6	1.0	9.40	5.0	38.5	15.6	0.075
P6SMA12A	12A	12C	11.4	12.6	1.0	10.2	5.0	35.9	16.7	0.078
P6SMA13A	13A	13C	12.4	13.7	1.0	11.1	5.0	33.0	18.2	0.081
P6SMA15A	15A	15C	14.3	15.8	1.0	12.8	1.0	28.3	21.2	0.084
P6SMA16A	16A	16C	15.2	16.8	1.0	13.6	1.0	26.7	22.5	0.086
P6SMA18A	18A	18C	17.1	18.9	1.0	15.3	1.0	23.8	25.2	0.088
P6SMA20A	20A	20C	19.0	21.0	1.0	17.1	1.0	21.7	27.7	0.090
P6SMA22A	22A	22C	20.9	23.1	1.0	18.8	1.0	19.6	30.6	0.092
P6SMA24A	24A	24C	22.8	25.2	1.0	20.5	1.0	18.1	33.2	0.094
P6SMA27A	27A	27C	25.7	28.4	1.0	23.1	1.0	16.0	37.5	0.096
P6SMA30A	30A	30C	28.5	31.5	1.0	25.6	1.0	14.5	41.4	0.097
P6SMA33A	33A	33C	31.4	34.7	1.0	28.2	1.0	13.1	45.7	0.098
P6SMA36A	36A	36C	34.2	37.8	1.0	30.8	1.0	12.0	49.9	0.099
P6SMA39A	39A	39C	37.1	41.0	1.0	33.3	1.0	11.1	53.9	0.100
P6SMA43A	43A	43C	40.9	45.2	1.0	36.8	1.0	10.1	59.3	0.101
P6SMA47A	47A	47C	44.7	49.4	1.0	40.2	1.0	9.3	64.8	0.101
P6SMA51A	51A	51C	48.5	53.6	1.0	43.6	1.0	8.6	70.1	0.102
P6SMA56A	56A	56C	53.2	58.8	1.0	47.8	1.0	7.8	77.0	0.103
P6SMA62A	62A	62C	58.9	65.1	1.0	53.0	1.0	7.1	85.0	0.104
P6SMA68A	68A	68C	64.6	71.4	1.0	58.1	1.0	6.5	92.0	0.104
P6SMA75A	75A	75C	71.3	78.8	1.0	64.1	1.0	5.8	103	0.105
P6SMA82A	82A	82C	77.9	86.1	1.0	70.1	1.0	5.3	113	0.105
P6SMA91A	91A	91C	86.5	95.5	1.0	77.8	1.0	4.8	125	0.106
P6SMA100A	100A	100C	95.0	105	1.0	85.5	1.0	4.4	137	0.106
P6SMA110A	110A	110C	105	116	1.0	94.0	1.0	3.9	152	0.107
P6SMA120A	120A	120C	114	126	1.0	102	1.0	3.6	165	0.107
P6SMA130A	130A	130C	124	137	1.0	111	1.0	3.4	179	0.107
P6SMA150A	150A	150C	143	158	1.0	128	1.0	2.9	207	0.108
P6SMA160A	160A	160C	152	168	1.0	136	1.0	2.7	219	0.108
P6SMA170A	170A	170C	162	179	1.0	145	1.0	2.6	234	0.108
P6SMA180A	180A	180C	171	189	1.0	154	1.0	2.4	246	0.108
P6SMA200A	200A	200C	190	210	1.0	171	1.0	2.2	274	0.108
P6SMA220A	220A	220C	209	231	1.0	185	1.0	1.9	328	0.108
P6SMA250A	250A	250C	237	263	1.0	214	1.0	1.8	344	0.108
P6SMA300A	300A	300C	285	315	1.0	256	1.0	1.5	414	0.108

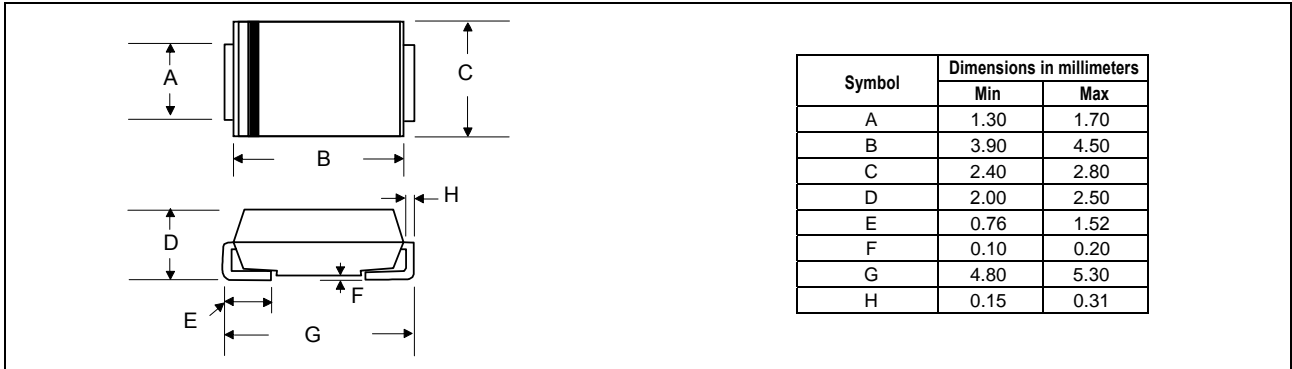
Device type	Device marking code		Breakdown voltage $V_{(BR)}$ (Volts) <sup>(1)</sup>		Test current at $I_T$ (mA)	Stand-off voltage $V_{WM}$ (Volts)	Maximum reverse leakage at $V_{WM}$ $I_D^{(3)}$ (uA)	Maximum peak pulse current $I_{PPM}^{(2)}$ (A)	Maximum clamping voltage at $I_{PPM}$ $V_C$ (Volts)	Maximum temperature coefficient of $V_{(BR)}$ (%/°C)
	UNI	BI	Min.	Max.						
P6SMA350A	350A	350C	332	368	1.0	300	1.0	1.3	482	0.108
P6SMA400A	400A	400C	380	420	1.0	342	1.0	1.1	548	0.108
P6SMA440A	440A	440C	418	462	1.0	376	1.0	1.0	602	0.108
P6SMA480A	480A	480C	456	504	1.0	408	1.0	0.9	658	0.108
P6SMA510A	510A	510C	485	535	1.0	434	1.0	0.9	698	0.108
P6SMA530A	530A	530C	503.5	556.5	1.0	477	1.0	0.8	725	0.108
P6SMA540A	540A	540C	513	567	1.0	459	1.0	0.8	740	0.108
P6SMA550A	550A	550C	522.5	577.5	1.0	495	1.0	0.8	760	0.108

- Notes:**
1.  $V_{(BR)}$  measured after  $I_T$  applied for 300us,  $I_T$ =square wave pulse or equivalent
  2. Surge current waveform per Fig. 3 and derate per Fig. 2
  3. For bidirectional types with  $V_{WM}$  of 10 Volts and less, the  $I_D$  limit is doubled
  4. All terms and symbols are consistent with ANSI/IEEE C62.35

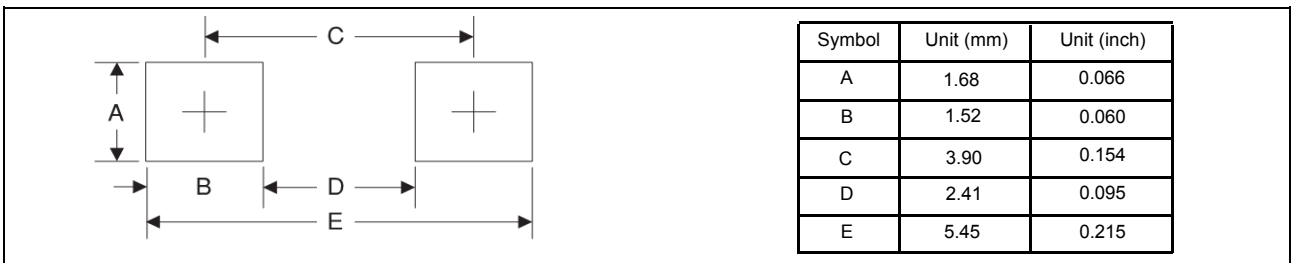
Typical Characteristics ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)



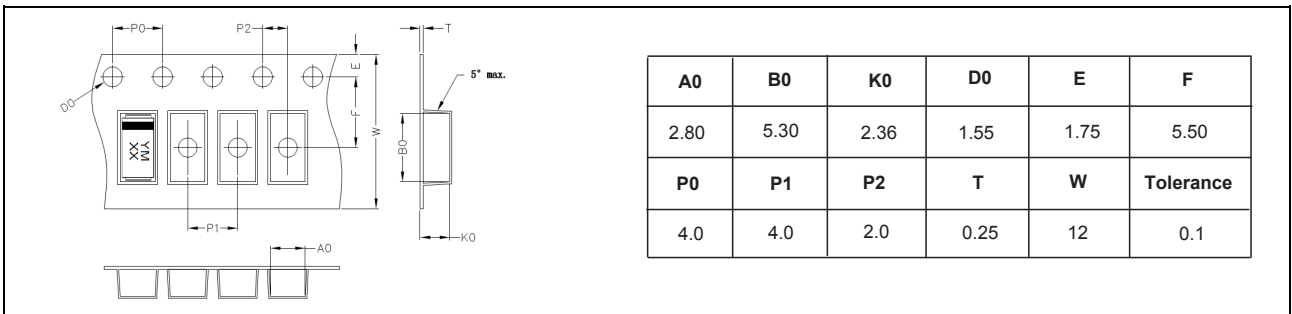
## Package Dimensions



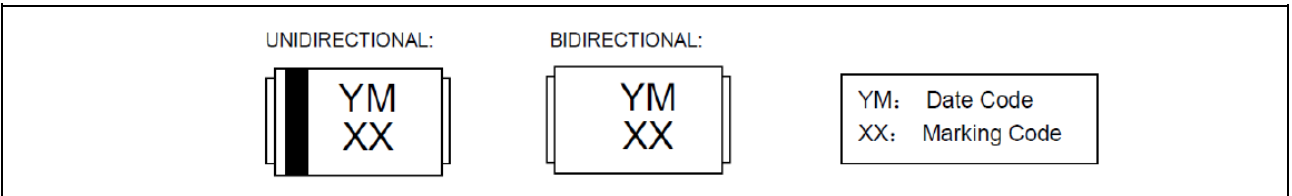
## PAD Dimensions



## Packing Information



## Marking



## Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
P6SMA 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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