

Surface mount transient voltage suppressor power 3000watts

Stand-Off Voltage: 5.0V~440V

FEATURES

- ♦ For surface mounted applications in order to optimize board space.
- ♦ Low profile package.
- ♦ Glass passivated junction.
- ♦ Low inductance.
- ♦ 3000W peak pulse power capability at 10x1000us waveform, repetition rate {duty cycles}:0.01 %
- ♦ Plastic package has Underwriters Laboratory Flammability.
- ♦ Excellent clamping capability
- ♦ Low incremental surge resistance
- ♦ Matte Tin Lead-free Plated

MECHANICAL DATA

- ♦ Case: DO-214AB/SMC
- ♦ Terminals: Solderable per MIL-STD-750, Method 2026
- ♦ Approx. Weight: 0.22g / 0.0077oz

Maximum Ratings and Electrical characteristics

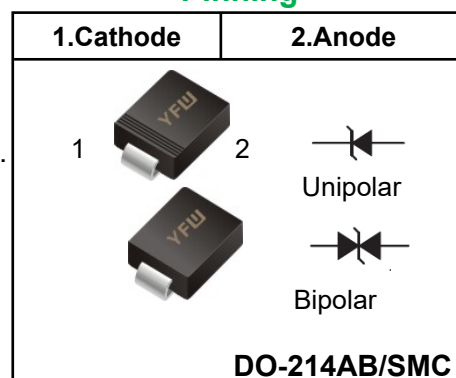
Ratings at 25 ambient temperature unless o °C therwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at Ta=25°C by 10x1000 us waveform (Fig.1)(Note 1), (Note 2)	P _{PPM}	3000	W
Power Dissipation on infinite heat sink at TA=50°C	P _{M(AV)}	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I _{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V _F	3.5	V
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W
Operating Junction Temperature and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

NOTES:

1. Non-repetitive current pulse . per Fig 3 and derated above Ta = 25°C per Fig. 2
2. Mounted on copper pad area of 0.31x0.31" (8.0 x 8.0mm) to each terminal
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum

Pinning



Characteristics at Ta = 25°C

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max.Clamp Voltage	Max. Peak Pulse Current	Max. Reverse Leakage	Package	
			V _{BR} @ I _T						SMC	
			V ^{RMW}	Min	Max	I _T	V ^C @ I ^{PP}	I ^{PP}	IR@VR	Device Marking Ccode
UNI	BI	V	V	V	mA	V	A	uA	UNI	BI
SMDJ5.0A	SMDJ5.0CA	5	6.4	7	10	9.2	326.1	800	RDE	DDE
SMDJ6.0A	SMDJ6.0CA	6	6.67	7.37	10	10.3	291.3	800	RDG	DDG
SMDJ6.5A	SMDJ6.5CA	6.5	7.22	7.98	10	11.2	267.9	500	RDK	DDK
SMDJ7.0A	SMDJ7.0CA	7	7.78	8.6	10	12	250	200	PDM	DDM
SMDJ7.5A	SMDJ7.5CA	7.5	8.33	9.21	1	12.9	232.6	100	PDP	DDP
SMDJ8.0A	SMDJ8.0CA	8	8.89	9.83	1	13.6	220.6	50	PDR	DDR
SMDJ8.5A	SMDJ8.5CA	8.5	9.44	10.4	1	14.4	208.3	20	PDT	DDT
SMDJ9.0A	SMDJ9.0CA	9	10	11.1	1	15.4	194.8	10	PDV	DDV
SMDJ10A	SMDJ10CA	10	11.1	12.3	1	17	176.5	5	PDX	DDX
SMDJ11A	SMDJ11CA	11	12.2	13.5	1	18.2	164.8	2	PDZ	DDZ
SMDJ12A	SMDJ12CA	12	13.3	14.7	1	19.9	150.8	2	PEE	DEE
SMDJ13A	SMDJ13CA	13	14.4	15.9	1	21.5	139.5	2	PEG	DEG
SMDJ14A	SMDJ14CA	14	15.6	17.2	1	23.2	129.3	2	PEK	DEK
SMDJ15A	SMDJ15CA	15	16.7	18.5	1	24.4	123	2	PEM	DEM
SMDJ16A	SMDJ16CA	16	17.8	19.7	1	26	115.4	2	PEP	DEP
SMDJ17A	SMDJ17CA	17	18.9	20.9	1	27.6	108.7	2	PER	DER
SMDJ18A	SMDJ18CA	18	20	22.1	1	29.2	102.7	2	PET	DET
SMDJ20A	SMDJ20CA	20	22.2	24.5	1	32.4	92.6	2	PEV	DEV
SMDJ22A	SMDJ22CA	22	24.4	26.9	1	35.5	84.5	2	PEX	DEX
SMDJ24A	SMDJ24CA	24	26.7	29.5	1	38.9	77.1	2	PEZ	DEZ
SMDJ26A	SMDJ26CA	26	28.9	31.9	1	42.1	71.3	2	PFE	DFE
SMDJ28A	SMDJ28CA	28	31.1	34.4	1	45.4	66.1	2	PFG	DFG
SMDJ30A	SMDJ30CA	30	33.3	36.8	1	48.4	62	2	PFK	DFK
SMDJ33A	SMDJ33CA	33	36.7	40.6	1	53.3	56.3	2	PFM	DFM
SMDJ36A	SMDJ36CA	36	40	44.2	1	58.1	51.6	2	PFP	DFP
SMDJ40A	SMDJ40CA	40	44.4	49.1	1	64.5	46.5	2	PFR	DFR
SMDJ43A	SMDJ43CA	43	47.8	52.8	1	69.4	43.2	2	PFT	DFT
SMDJ45A	SMDJ45CA	45	50	55.3	1	72.7	41.3	2	PFV	DFV
SMDJ48A	SMDJ48CA	48	53.3	58.9	1	77.4	38.8	2	PFX	DFX
SMDJ51A	SMDJ51CA	51	56.7	62.7	1	82.4	36.4	2	PFZ	DFZ
SMDJ54A	SMDJ54CA	54	60	66.3	1	87.1	34.4	2	RGE	DGE
SMDJ58A	SMDJ58CA	58	64.4	71.2	1	93.6	32.1	2	PGG	DGG
SMDJ60A	SMDJ60CA	60	66.7	73.7	1	96.8	31	2	PGK	DGK
SMDJ64A	SMDJ64CA	64	71.1	78.6	1	103	29.1	2	PGM	DGM
SMDJ70A	SMDJ70CA	70	77.8	86	1	113	26.5	2	PGP	DGP
SMDJ75A	SMDJ75CA	75	83.3	92.1	1	121	24.8	2	PGR	DGR
SMDJ78A	SMDJ78CA	78	86.7	95.8	1	126	23.8	2	PGT	DGT
SMDJ85A	SMDJ85CA	85	94.4	104	1	137	21.9	2	PGV	DGV

Characteristics at Ta = 25°C

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max.Clamp Voltage	Max. Peak Pulse Current	Max. Reverse Leakage	Package		
			V _{BR} @ I _T						SMC		
			V _{RMW}	Min	Max	I _T	V _C @ I _{PP}	I _{PP}	IR@VR	Device Marking Ccode	
UNI	BI	V	V	V	mA	V	A	uA	UNI	BI	
SMDJ90A	SMDJ90CA	90	100	111	1	146	20.5	2	PGX	DGX	
SMDJ100A	SMDJ100CA	100	111	123	1	162	18.5	2	PGZ	DGZ	
SMDJ110A	SMDJ110CA	110	122	135	1	177	16.9	2	PHE	DHE	
SMDJ120A	SMDJ120CA	120	133	147	1	193	15.5	2	PHG	DHG	
SMDJ130A	SMDJ130CA	130	144	159	1	209	14.4	2	PHK	DHK	
SMDJ150A	SMDJ150CA	150	167	185	1	243	12.3	2	PHM	DHM	
SMDJ160A	SMDJ160CA	160	178	197	1	259	11.6	2	PHP	DHP	
SMDJ170A	SMDJ170CA	170	189	209	1	275	10.9	2	PHR	DHR	
SMDJ180	SMDJ180C	180	201	244.8	1	322.2	9.31	5	PHS	DHS	
SMDJ180A	SMDJ180CA	180	201	220	1	291.6	10.29	5	PHT	DHT	
SMDJ190	SMDJ190C	190	211.21	258.4	1	340.1	8.82	5	PHU	DHU	
SMDJ190A	SMDJ190CA	190	211	232	1	307.8	9.75	5	PHV	DHV	
SMDJ200A	SMDJ200CA	200	224	247	1	324	9.26	5	PHW	DHW	
SMDJ220A	SMDJ220CA	220	246	272	1	356	8.43	5	PHX	DHX	
SMDJ250A	SMDJ250CA	250	279	309	1	405	7.41	5	PHZ	DHZ	
SMDJ300A	SMDJ300CA	300	335	371	1	486	6.17	5	PJE	DJE	
SMDJ350A	SMDJ350CA	350	391	432	1	567	5.29	5	PJG	DJG	
SMDJ400A	SMDJ400CA	400	447	494	1	648	4.63	5	PJK	DJK	
SMDJ440A	SMDJ440CA	440	492	543	1	713	4.21	5	PJM	DJM	

Note:

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

Fig.1 Peak Pulse Power Rating Curve

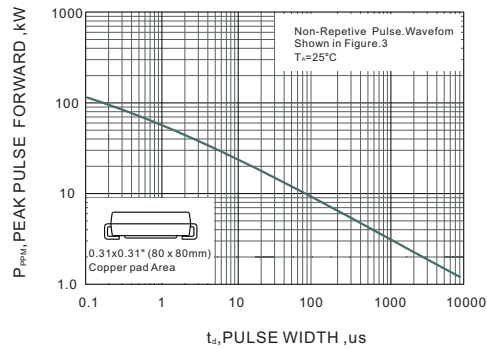


Fig.2 Forward Current Derating Curve

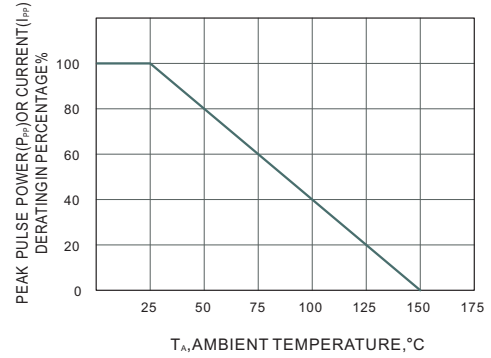


Fig.3 Pulse Waveform

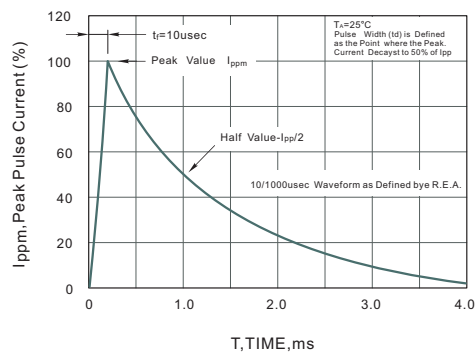


Fig.4 Typical Junction Capacitance

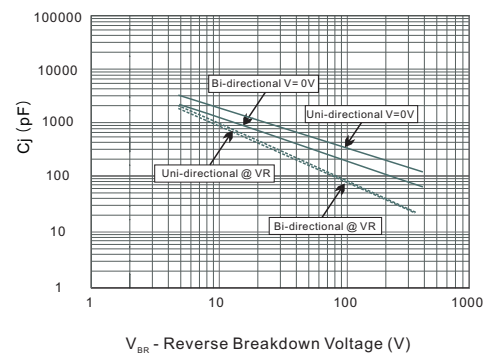


Fig.5 Steady State Power Derating Curve

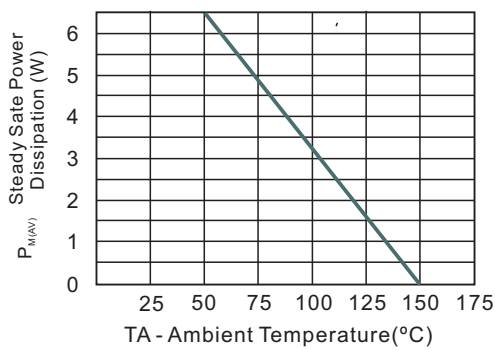
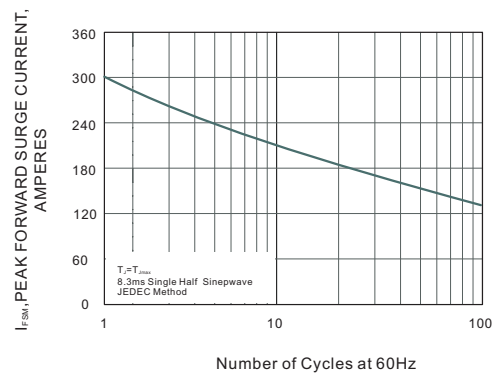
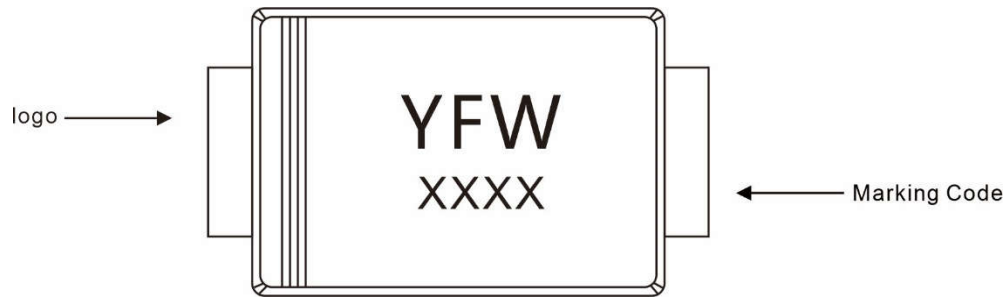


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Marking Diagram



Ordering information

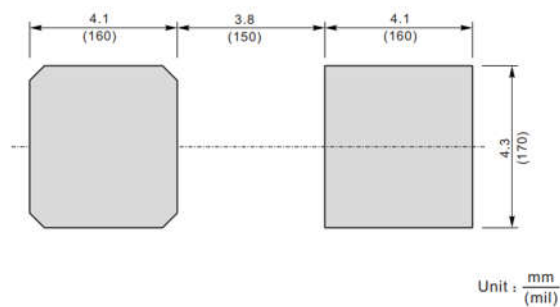
Package	Packing Description	Packing Quantity
DO-214AB SMC	Tape/Reel, 13"reel	3000PCS/Reel 30000PCS/Carton

Package Dimensions

DO-214AB SMC

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	2.00	2.62	79	103
E	6.5	7.0	256	276
D	5.6	6.2	220	244
E ₁	7.6	8.0	299	315
A ₁	0.05	0.21	2.0	8.3
C	0.15	0.31	5.9	12
L	0.9	1.6	35	63
b	2.75	3.25	108	128

The recommended mounting pad size



Disclaimer

The information presented in this document is for reference only. Guangdong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.