

GSE5.0SMDJ Series

Transient Voltage Suppressors

Product Description

Peak Pulse Power Dissipation: 5000W
Working Voltage: 11 to 250V





Features

- 5000W Peak Pulse Power Capability at 10/1000 μ s Waveform, Repetition Rate 0.01%
- Glass Passivated Junction


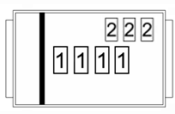
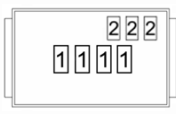
Mechanical Data

- SMC (DO-214AB) Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

SMC (DO-214AB)	Equivalent Circuit
Unidirectional	
	
Bidirectional	
	

Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSE5.0SMDJ□□□AF GSE5.0SMDJ□□□CAF	SMC (DO-214AB)		3,000PCS
GSE5.0SMDJ 1112 AF			
- Product Code: GSE5.0SMDJ		- Voltage Code: 111 is V_{RWM} Voltage	
- Tolerance Code: A for 5% V_{BR} Voltage Tolerance		- Type Code: 2 for type of direction. Blank: Unidirectional C: Bidirectional	
- Green Level: F for RoHS Compliant and Halogen Free			
Marking Information			
Unidirectional		Bidirectional	
			
- Product Code: 1111		- GS Code: 222 is blank or specific codes	
<ul style="list-style-type: none"> The Product Code for the selected parts can be checked from the Marking Code in the section of Electrical Characteristics The Band denotes Cathode End for Unidirectional Type only 			

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Rating	Unit
P_{PP}	Peak power dissipation with a 10/1000 μs waveform ^{(1), (2)}	5000	W
I_{PP}	Peak pulse current with a 10/1000 μs waveform ⁽¹⁾	See Table	A
I_{FSM}	Peak Forward Surge Current 8.3ms single half sine-wave for unidirectional only ⁽³⁾	300	A
P_D	Steady state power dissipation at $T_A=50^\circ\text{C}$ (Fig.5)	6.5	W
T_J	Operating Temperature Range	-55 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

NOTE:

- Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
- Mounted on 8.0mm \times 8.0mm copper pads to each terminal.
- 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Electrical Characteristics (T_A=25°C unless otherwise specified)

Part Number (Unidirectional)	Part Number (Bidirectional)	Marking Code		Breakdown Voltage V _{BR@I_T}			V _{RWM} (V)	V _{C@I_{PP}} (V)	I _{PP} (A)	I _{R@} V _{RWM} (μA)
		Uni	Bi	Min (V)	Max (V)	I _T (mA)				
GSE5.0SMDJ11A	GSE5.0SMDJ11CA	5PEN	5BEN	12.2	13.5	10	11	18.2	274.7	800
GSE5.0SMDJ12A	GSE5.0SMDJ12CA	5PEP	5BEP	13.3	14.7	10	12	19.9	251.3	800
GSE5.0SMDJ13A	GSE5.0SMDJ13CA	5PEQ	5BEQ	14.4	15.9	10	13	21.5	232.6	500
GSE5.0SMDJ14A	GSE5.0SMDJ14CA	5PER	5BER	15.6	17.2	10	14	23.2	215.5	200
GSE5.0SMDJ15A	GSE5.0SMDJ15CA	5PES	5BES	16.7	18.5	1	15	24.4	204.9	100
GSE5.0SMDJ16A	GSE5.0SMDJ16CA	5PET	5BET	17.8	19.7	1	16	26.0	192.3	50
GSE5.0SMDJ17A	GSE5.0SMDJ17CA	5PEU	5BEU	18.9	20.9	1	17	27.6	181.2	20
GSE5.0SMDJ18A	GSE5.0SMDJ18CA	5PEV	5BEV	20.0	22.1	1	18	29.2	171.2	10
GSE5.0SMDJ20A	GSE5.0SMDJ20CA	5PEW	5BEW	22.2	24.5	1	20	32.4	154.3	5
GSE5.0SMDJ22A	GSE5.0SMDJ22CA	5PEX	5BEX	24.4	26.9	1	22	35.5	140.8	5
GSE5.0SMDJ24A	GSE5.0SMDJ24CA	5PEZ	5BEZ	26.7	29.5	1	24	38.9	128.5	2
GSE5.0SMDJ26A	GSE5.0SMDJ26CA	5PFE	5BFE	28.9	31.9	1	26	42.1	118.8	2
GSE5.0SMDJ28A	GSE5.0SMDJ28CA	5PFG	5BFG	31.1	34.4	1	28	45.4	110.1	2
GSE5.0SMDJ30A	GSE5.0SMDJ30CA	5PFK	5BFK	33.3	36.8	1	30	48.4	103.3	2
GSE5.0SMDJ33A	GSE5.0SMDJ33CA	5PFM	5BFM	36.7	40.6	1	33	53.3	93.8	2
GSE5.0SMDJ36A	GSE5.0SMDJ36CA	5PFP	5BFP	40.0	44.2	1	36	58.1	86.1	2
GSE5.0SMDJ40A	GSE5.0SMDJ40CA	5PFR	5BFR	44.4	49.1	1	40	64.5	77.5	2
GSE5.0SMDJ43A	GSE5.0SMDJ43CA	5PFT	5BFT	47.8	52.8	1	43	69.4	72.0	2
GSE5.0SMDJ45A	GSE5.0SMDJ45CA	5PFV	5BFV	50.0	55.3	1	45	72.7	68.8	2
GSE5.0SMDJ48A	GSE5.0SMDJ48CA	5PFX	5BFX	53.3	58.9	1	48	77.4	64.6	2
GSE5.0SMDJ51A	GSE5.0SMDJ51CA	5PFZ	5BFZ	56.7	62.7	1	51	82.4	60.7	2
GSE5.0SMDJ54A	GSE5.0SMDJ54CA	5PGE	5BGE	60.0	66.3	1	54	87.1	57.4	2
GSE5.0SMDJ58A	GSE5.0SMDJ58CA	5PGG	5BGG	64.4	71.2	1	58	93.6	53.4	2
GSE5.0SMDJ60A	GSE5.0SMDJ60CA	5PGK	5BGK	66.7	73.7	1	60	96.8	51.7	2
GSE5.0SMDJ64A	GSE5.0SMDJ64CA	5PGM	5BGM	71.1	78.6	1	64	103	48.5	2
GSE5.0SMDJ70A	GSE5.0SMDJ70CA	5PGP	5BGP	77.8	86	1	70	113	44.2	2
GSE5.0SMDJ75A	GSE5.0SMDJ75CA	5PGR	5BGR	83.3	92.1	1	75	121	41.3	2
GSE5.0SMDJ78A	GSE5.0SMDJ78CA	5PGT	5BGT	86.7	95.8	1	78	126	39.7	2
GSE5.0SMDJ85A	GSE5.0SMDJ85CA	5PGV	5BGV	94.4	104	1	85	137	36.5	2
GSE5.0SMDJ90A	GSE5.0SMDJ90CA	5PGX	5BGX	100	111	1	90	146	34.2	2
GSE5.0SMDJ100A	GSE5.0SMDJ100CA	5PGZ	5BGZ	111	123	1	100	162	30.9	2
GSE5.0SMDJ110A	GSE5.0SMDJ110CA	5PHE	5BHE	122	135	1	110	177.7	28.2	2
GSE5.0SMDJ120A	GSE5.0SMDJ120CA	5PHG	5BHG	133	147	1	120	193	25.9	2
GSE5.0SMDJ130A	GSE5.0SMDJ130CA	5PHK	5BHK	144	159	1	130	209	23.9	2
GSE5.0SMDJ150A	GSE5.0SMDJ150CA	5PHM	5BHM	167	185	1	150	243	20.6	2
GSE5.0SMDJ160A	GSE5.0SMDJ160CA	5PHP	5BHP	178	197	1	160	259	19.3	2
GSE5.0SMDJ170A	GSE5.0SMDJ170CA	5PHR	5BHR	189	209	1	170	275	18.2	2
GSE5.0SMDJ180A	GSE5.0SMDJ180CA	5HHT	5BHT	200	220	1	180	291.6	17.1	2
GSE5.0SMDJ190A	GSE5.0SMDJ190CA	5HHV	5BHU	211	232	1	190	307.8	16.2	2
GSE5.0SMDJ200A	GSE5.0SMDJ200CA	5HHX	5BHV	224	247	1	200	324	15.4	2

Part Number (Uni-Polar)	Part Number (Bi-Polar)	Marking Code		Breakdown Voltage $V_{BR@I_T}$			V_{RWM} (V)	$V_C@I_{PP}$ (V)	I_{PP} (A)	$I_R@$ V_{RWM} (μ A)
		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
GSE5.0SMDJ210A	GSE5.0SMDJ210CA	5HHZ	5BHW	237	269	1	210	340	14.7	2
GSE5.0SMDJ220A	GSE5.0SMDJ220CA	5HIE	5BHx	246	272	1	220	356	14.0	2
GSE5.0SMDJ250A	GSE5.0SMDJ250CA	5HIG	5BHZ	279	309	1	250	405	12.3	2

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

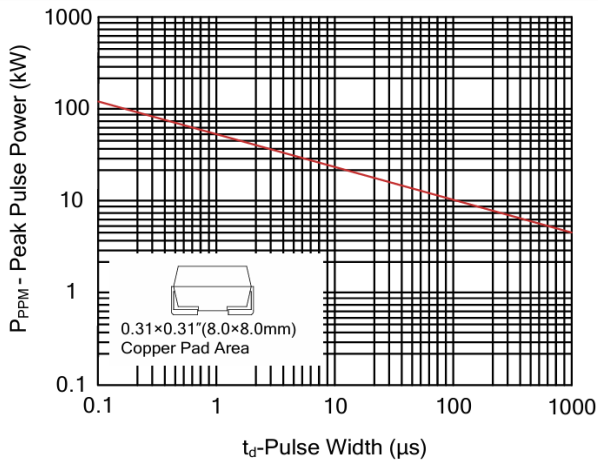


FIG 1. Peak Pulse Power vs. Pulse Time

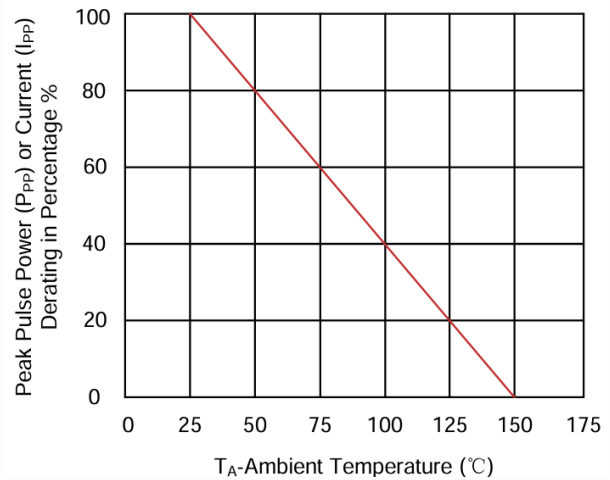


FIG 2. Power Derating Curve

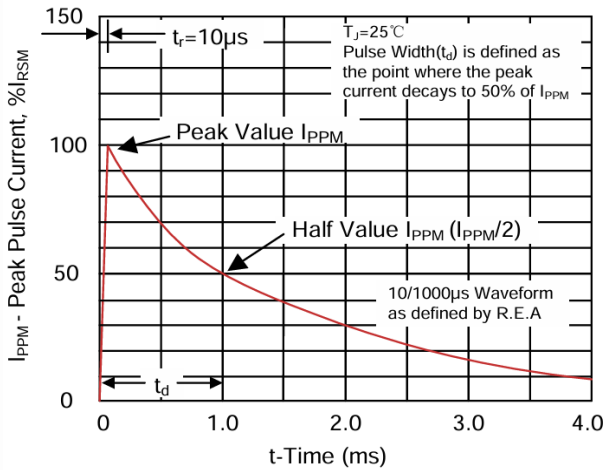


FIG 3. Pulse Waveform

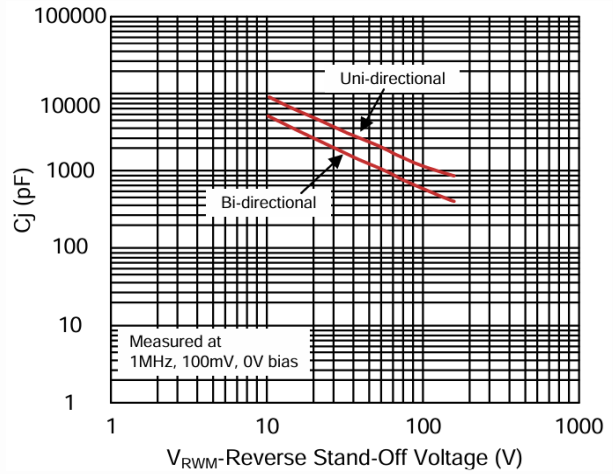
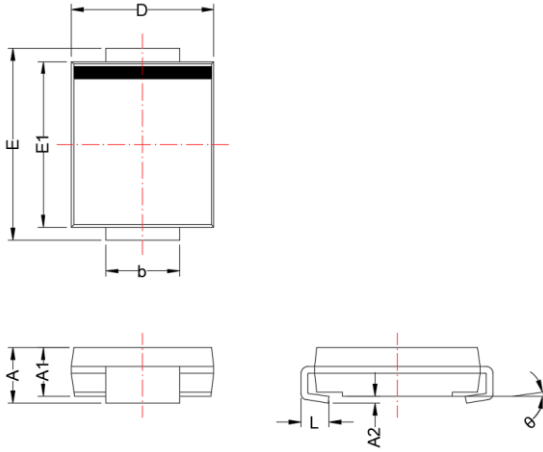


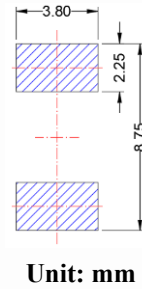
FIG 4. Typical Junction Capacitance

SMC (DO-214AB)

Package Dimension



Recommended Land Pattern



Dimensions				
SYMBOL	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	1.95	2.80	0.077	0.110
A1	1.90	---	0.075	---
A2	0.00	0.30	0.000	0.012
b	2.90	3.20	0.114	0.126
D	5.55	6.25	0.219	0.246
E	7.75	8.15	0.305	0.321
E1	6.60	7.15	0.260	0.281
L	0.75	1.60	0.030	0.063
θ	0°	8°	0°	8°





NOTE:



Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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CONTACT US

GS Headquarter	
	4F, NO.43-1, Lane 11, Sec. 6, Minquan E. Rd Neihu District, Taipei City 114761, Taiwan (R.O.C).
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587