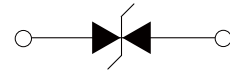


FEATURES

- | ISO10605(C=330pF, R=330Ω):±30kV Air , ±30kV(Contact)
- | HBM ≥±8kV & CDM ≥±2kV
- | Rated for load dump protection (ISO16750-2)in automotive applications
- | Meets ISO7637-2 Requirements
- | Meets MSL Level 1 per J-STD-020
- | Meet AEC-Q101 Requirements
- | Lead free in compliance with EU RoHS 2.0
- | Green molding compound as per IEC61249 standard



DO-218mini



Schematic Symbol

MECHANICAL DATA

- | Case : Molded plastic,BKM_{Tentative}
- | Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
- | Approx Weight : 2.5 grams
- | Only suitable for P-type chip

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbo	Value	Unit
10/1,000us Peak Pulse Power Dissipation on T _A =25°C	P _{PPM1} ⁽¹⁾	6600	W
10/10,000us Peak Pulse Power Dissipation on T _A =25°C	P _{PPM2}	5200	W
Peak Surge Current (60Hz half wave)	I _{FSM}	700	A
Typical Thermal Resistance Junction to Case	R _{θJC}	0.9	°C/W
Power Dissipation on infinite heatsink T _c =25°C	P _D	8	W
ISO10605 (C=330pF, R=330Ω) Contact	V _{ESD}	30	kV
ISO10605 (C=330pF, R=330Ω) Air	V _{ESD}	30	kV
Operating and Storage Temperature Range	T _J ,T _{STG}	-55 to 175	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number	Device Marking Code	Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}	Reverse Leakage @V _{RWM} T _J =175°C
		V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A) ⁽¹⁾	I _R (uA) ⁽¹⁾	I _R (uA)
SMD8S14CA	SMD8S14CA	14.0	15.6	17.2	5.0	23.2	284	1.0	150
SMD8S15CA	SMD8S15CA	15.0	16.7	18.5	5.0	24.4	270	1.0	150
SMD8S16CA	SMD8S16CA	16.0	17.8	19.7	5.0	26.0	254	1.0	150
SMD8S17CA	SMD8S17CA	17.0	18.9	20.9	5.0	27.6	239	1.0	150
SMD8S18CA	SMD8S18CA	18.0	20.0	22.1	5.0	29.2	226	0.5	150
SMD8S20CA	SMD8S20CA	20.0	22.2	24.5	5.0	32.4	204	0.5	150
SMD8S22CA	SMD8S22CA	22.0	24.4	26.9	5.0	35.5	186	0.5	150
SMD8S24CA	SMD8S24CA	24.0	26.7	29.5	5.0	38.9	170	0.5	150
SMD8S26CA	SMD8S26CA	26.0	28.9	31.9	5.0	42.1	157	0.5	150
SMD8S28CA	SMD8S28CA	28.0	31.1	34.4	5.0	45.4	145	0.5	150
SMD8S30CA	SMD8S30CA	30.0	33.3	36.8	5.0	48.4	136	0.5	150
SMD8S33CA	SMD8S33CA	33.0	36.7	40.6	5.0	53.3	124	0.5	150
SMD8S36CA	SMD8S36CA	36.0	40.0	44.2	5.0	58.1	114	0.5	150
SMD8S40CA	SMD8S40CA	40.0	44.4	49.1	5.0	64.5	102	0.5	150
SMD8S43CA	SMD8S43CA	43.0	47.8	52.8	5.0	69.4	95	0.5	150
SMD8S48CA	SMD8S48CA	48.0	53.3	58.7	5.0	80.6	82	0.5	150

NOTES:

1.Non-repetitive current pulse per Fig.3 and derated above TA=25°C per Fig.1

CHARACTERISTIC CURVES

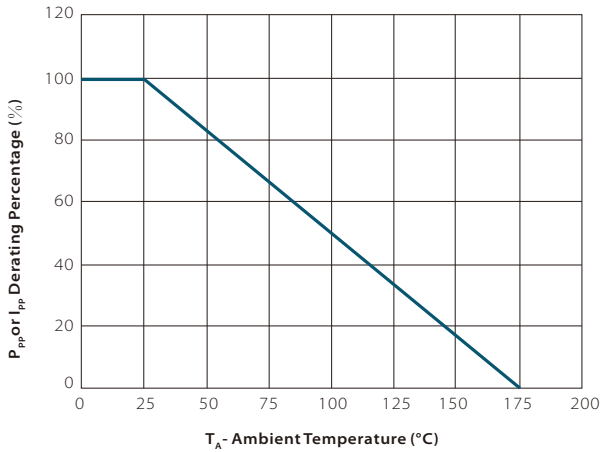
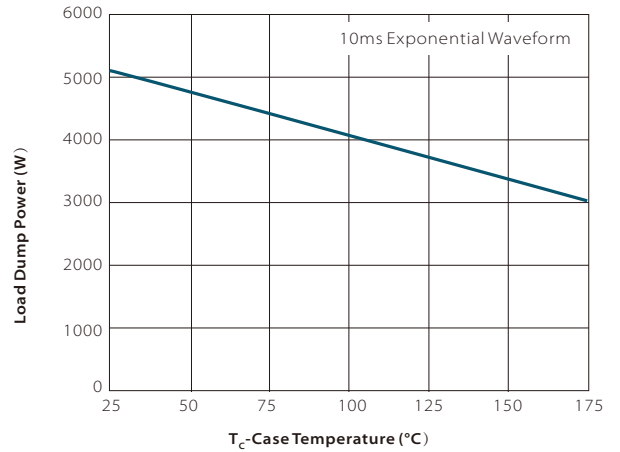
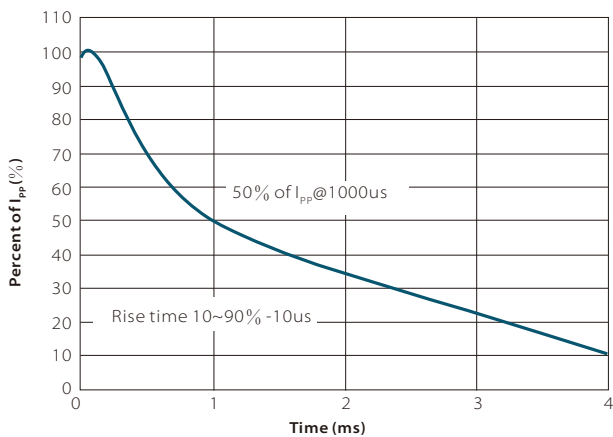
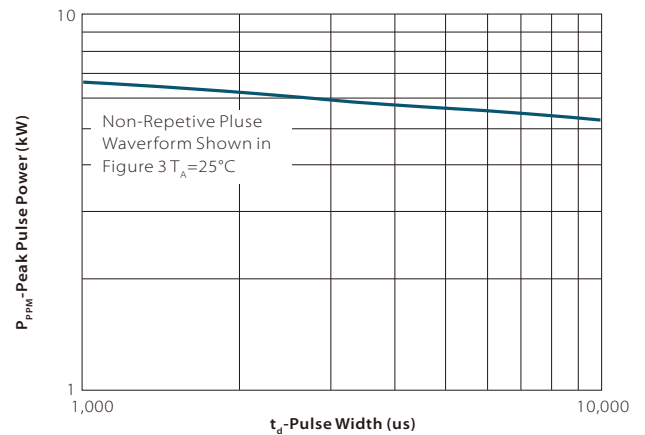
Fig.1 Pulse Power Rating Curve

Fig.2 Load Dump Power Characteristics

Fig.3 Pulse Waveform

Fig.4 Peak Pulse Power Rating Curve


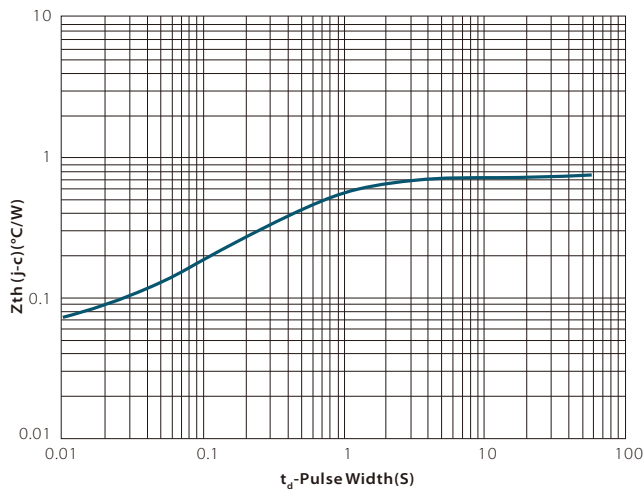
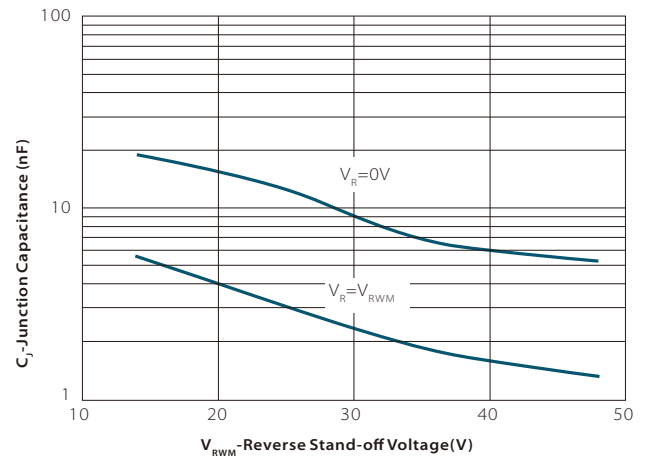
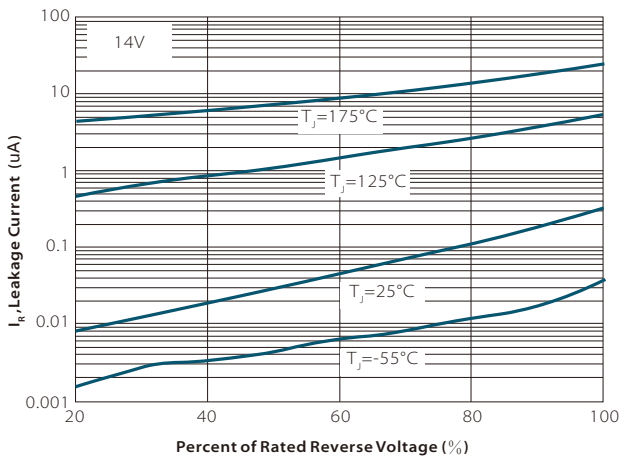
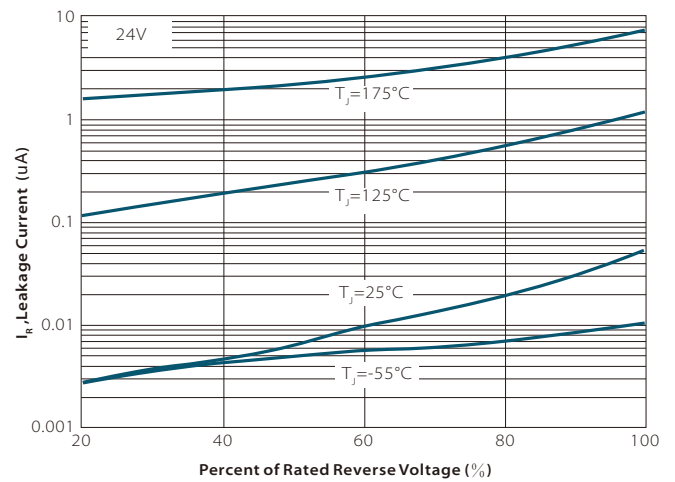
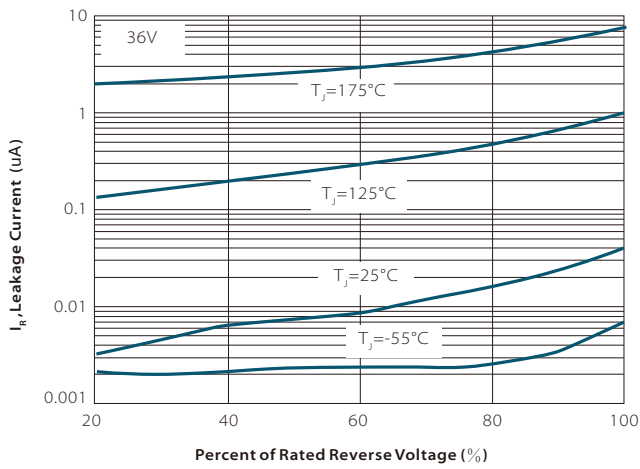
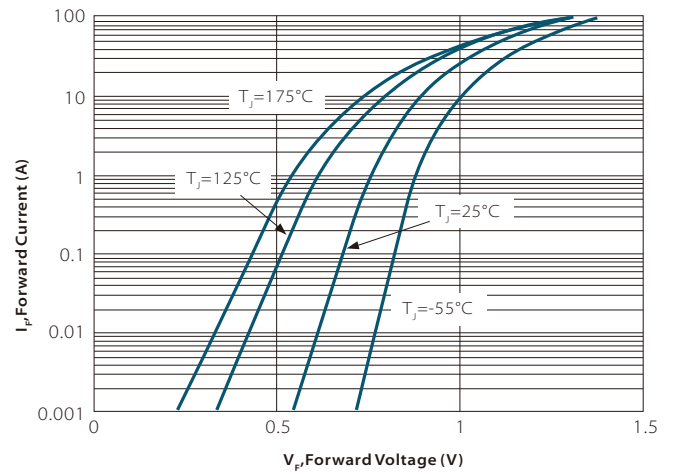
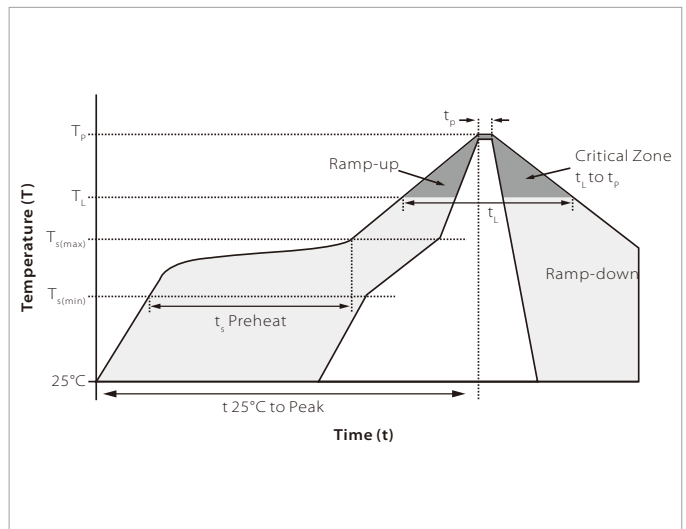
Fig.5 Typical Transient Thermal Impedance

Fig.6 Typical Capacitance

Fig.7 Typical Reverse Characteristics

Fig.8 Typical Reverse Characteristics


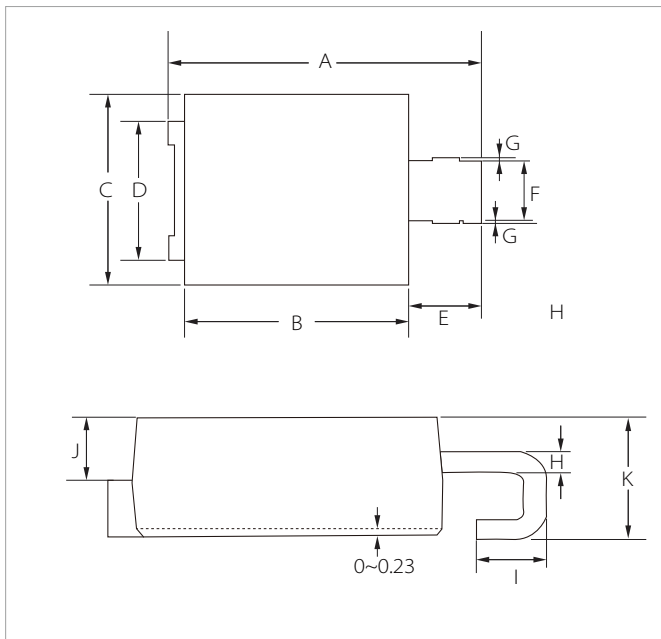
Fig.9 Typical Reverse Characteristics

Fig.10 Typical Forward Characteristics


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_r) (Liquidus)	217°C
	Time (min to max) (t_r)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C



DO-218MINI PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	11.50	12.50	0.453	0.492
B	8.20	8.80	0.323	0.346
C	7.70	8.70	0.303	0.342
D	6.00		0.236	
E	2.80		0.110	
F	2.60		0.102	
G	-	0.20	-	0.008
H	0.66		0.026	
I	1.90		0.075	
J	1.80	2.30	0.071	0.090
K	3.20	4.00	0.126	0.157

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SMD8S14CA-SMD8S48CA	DO-218mini	1000PCS	13"

To find your local partner within Semiwell's website : www.semiwell.com.cn

©2023 Semiwell Microelectronics Co.,Ltd.

The content of this document has been carefully checked and understood. However, neither Semiwell nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiwell does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiwell. Latest publications and a complete disclaimer can be downloaded from the Semiwell website. All trademarks recognized.