

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
- | Meet AEC-Q101 Requirements
- | Green molding compound as per IEC61249 standard



DO-218AB



Schematic Symbol

MECHANICAL DATA

- | Case : Molded plastic,DO-218AB
- | Meets MSL Level 1 per J-STD-020
- | 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}	0.90	°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)
SM8S14CA	SM8S14CA	14.0	15.6	17.2	5.0	23.2	284	1.0	150
SM8S15CA	SM8S15CA	15.0	16.7	18.5	5.0	24.4	270	1.0	150
SM8S16CA	SM8S16CA	16.0	17.8	19.7	5.0	26.0	254	1.0	150
SM8S17CA	SM8S17CA	17.0	18.9	20.9	5.0	27.6	239	1.0	150
SM8S18CA	SM8S18CA	18.0	20.0	22.1	5.0	29.2	226	0.5	150
SM8S20CA	SM8S20CA	20.0	22.2	24.5	5.0	32.4	204	0.5	150
SM8S22CA	SM8S22CA	22.0	24.4	26.9	5.0	35.5	186	0.5	150
SM8S24CA	SM8S24CA	24.0	26.7	29.5	5.0	38.9	170	0.5	150
SM8S26CA	SM8S26CA	26.0	28.9	31.9	5.0	42.1	157	0.5	150
SM8S28CA	SM8S28CA	28.0	31.1	34.4	5.0	45.4	145	0.5	150
SM8S30CA	SM8S30CA	30.0	33.3	36.8	5.0	48.4	136	0.5	150
SM8S33CA	SM8S33CA	33.0	36.7	40.6	5.0	53.3	124	0.5	150
SM8S36CA	SM8S36CA	36.0	40.0	44.2	5.0	58.1	114	0.5	150
SM8S40CA	SM8S40CA	40.0	44.4	49.1	5.0	64.5	102	0.5	150
SM8S43CA	SM8S43CA	43.0	47.8	52.8	5.0	69.4	95	0.5	150
SM8S48CA	SM8S48CA	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

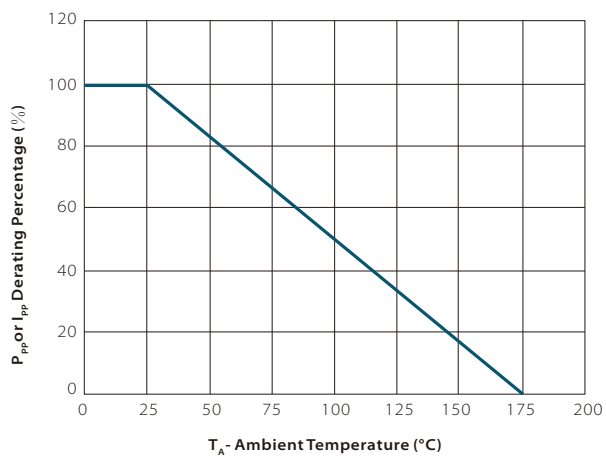


Fig.2 Load Dump Power Characteristics

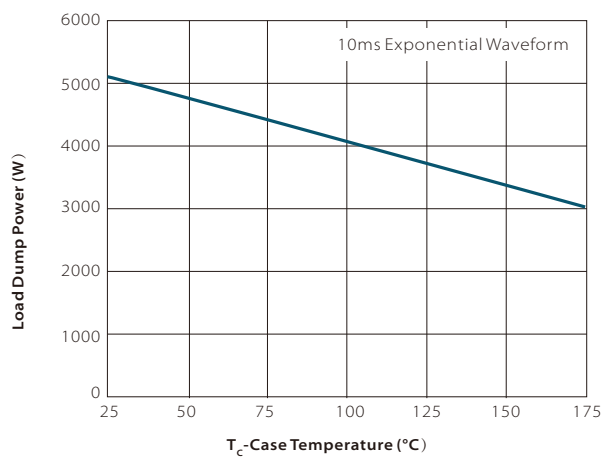


Fig.3 Pulse Waveform

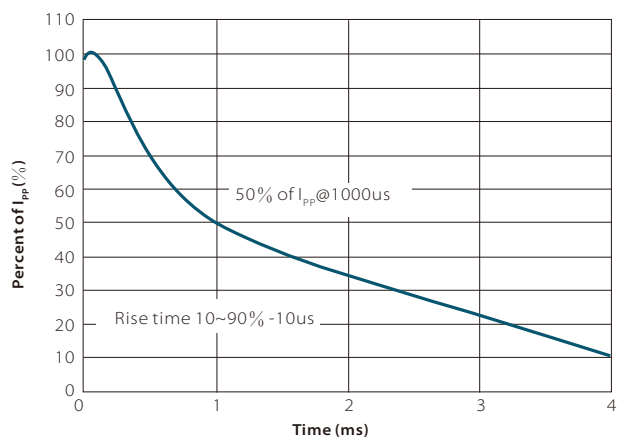


Fig.4 Peak Pulse Power Rating Curve

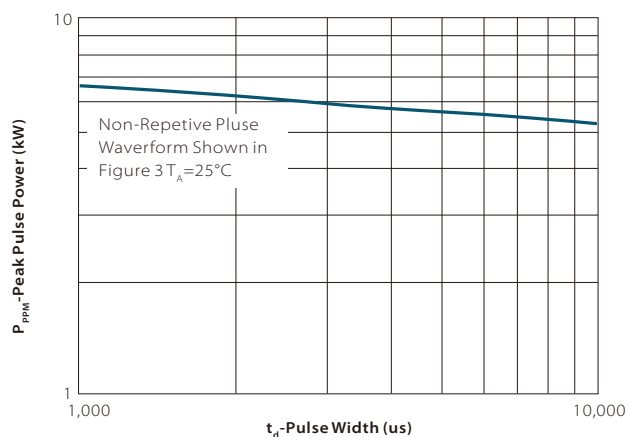


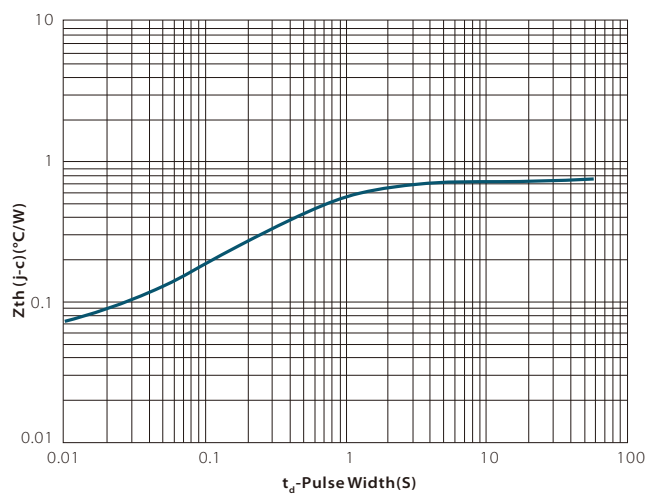
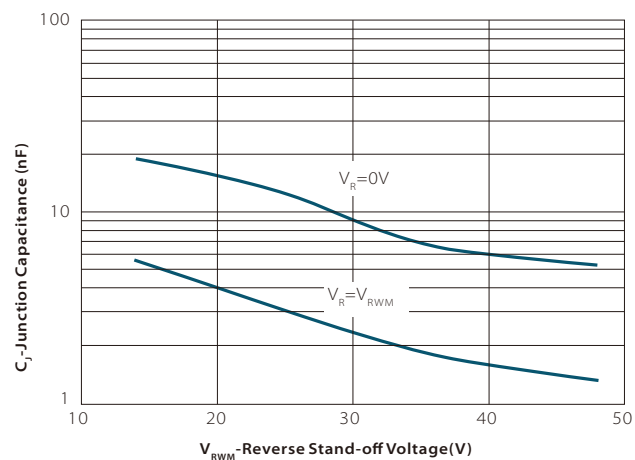
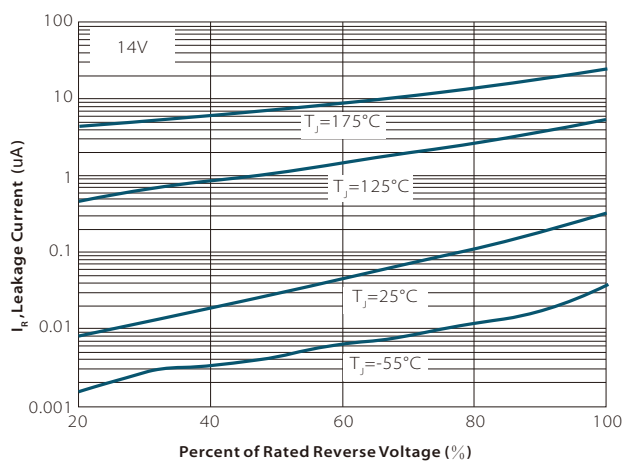
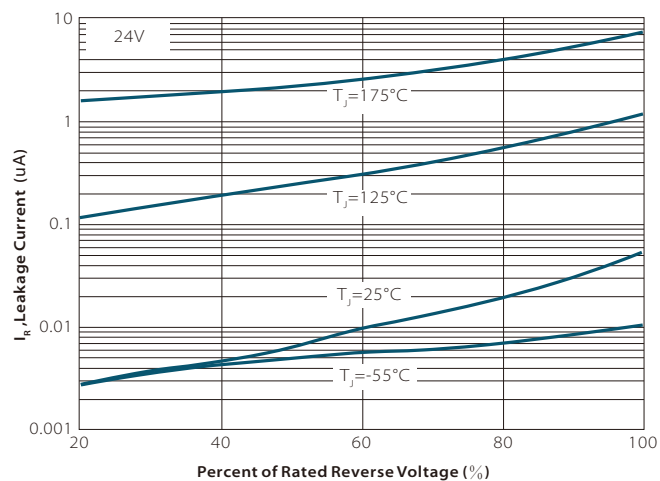
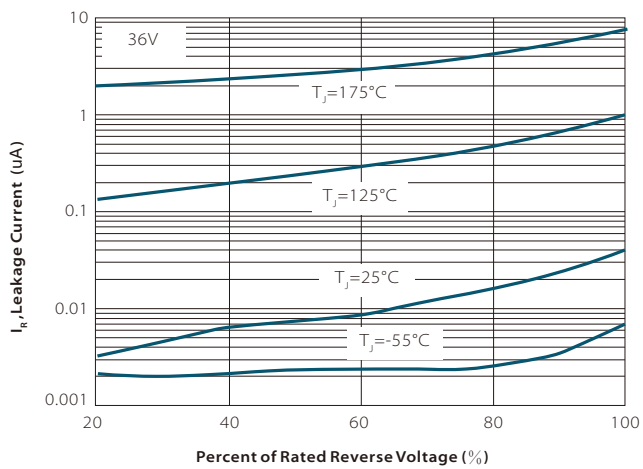
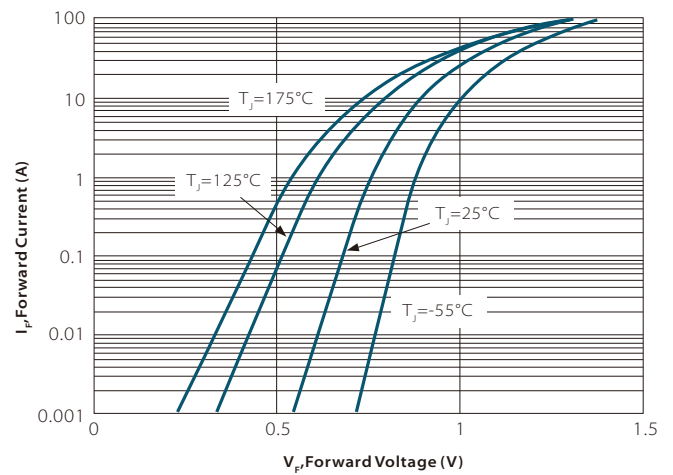
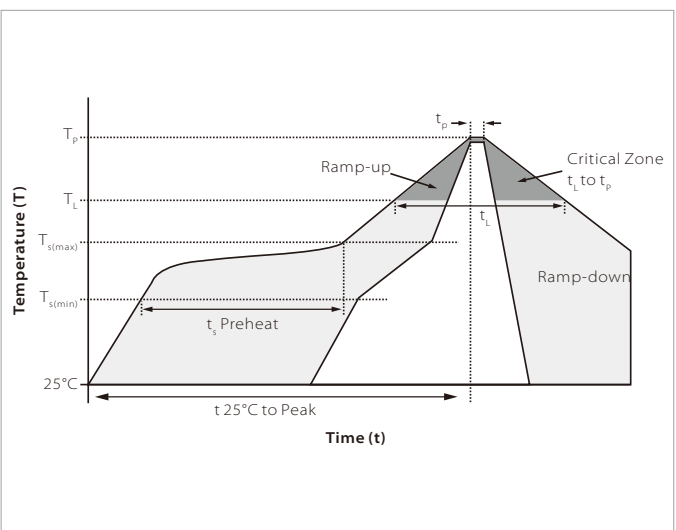
Fig.5 Typical Transient Thermal Impedance

Fig.6 Typical Capacitance

Fig.7 Typical Reverse Characteristics

Fig.8 Typical Reverse Characteristics


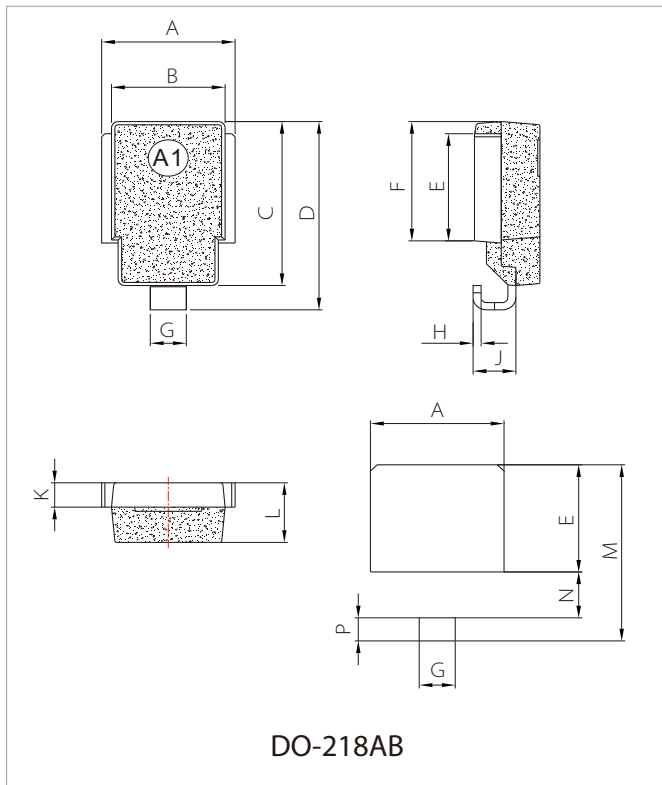
Fig.9 Typical Reverse Characteristics

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_2)	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_L) (Liquidus)	217°C
	Time (min to max) (t_1)	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



PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.5	10.5	0.374	0.413
B	8.3	8.7	0.327	0.342
C	13.3	13.7	0.524	0.539
D	15.0	16.0	0.592	0.628
E	8.5	9.1	0.335	0.358
F	9.5	10.1	0.374	0.398
G	2.4	3.0	0.094	0.118
H	0.5	0.7	0.020	0.028
J	2.7	3.7	0.106	0.146
K	1.9	2.1	0.075	0.083
L	4.7	5.1	0.185	0.201
M	14.2	14.8	0.559	0.583
N	3.5	4.1	0.138	0.161
P	1.6	2.2	0.063	0.087

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SM8S14CA-SM8S48CA	DO-218AB	750PCS	13"

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