

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⁾	3600	W
10/10,000us Peak Pulse Power Dissipation on T _A =25°C	P _{PPM2}	2800	W
Peak Surge Current (60Hz half wave)	I _{FSM}	500	A
Typical Thermal Resistance Junction to Case	R _{θJC}	1	°C/W
Power Dissipation on infinite heatsink T _c =25°C	P _D	5	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)
SM5S14A	SM5S14A	14.0	15.6	17.2	5.0	23.2	155	1.0	150
SM5S15A	SM5S15A	15.0	16.7	18.5	5.0	24.4	148	1.0	150
SM5S16A	SM5S16A	16.0	17.8	19.7	5.0	26.0	138	1.0	150
SM5S17A	SM5S17A	17.0	18.9	20.9	5.0	27.6	130	1.0	150
SM5S18A	SM5S18A	18.0	20.0	22.1	5.0	29.2	123	0.5	150
SM5S20A	SM5S20A	20.0	22.2	24.5	5.0	32.4	111	0.5	150
SM5S22A	SM5S22A	22.0	24.4	26.9	5.0	35.5	101	0.5	150
SM5S24A	SM5S24A	24.0	26.7	29.5	5.0	38.9	93	0.5	150
SM5S26A	SM5S26A	26.0	28.9	31.9	5.0	42.1	86	0.5	150
SM5S28A	SM5S28A	28.0	31.1	34.4	5.0	45.4	79	0.5	150
SM5S30A	SM5S30A	30.0	33.3	36.8	5.0	48.4	74	0.5	150
SM5S33A	SM5S33A	33.0	36.7	40.6	5.0	53.3	68	0.5	150
SM5S36A	SM5S36A	36.0	40.0	44.2	5.0	58.1	62	0.5	150
SM5S40A	SM5S40A	40.0	44.4	49.1	5.0	64.5	56	0.5	150
SM5S43A	SM5S43A	43.0	47.8	52.8	5.0	69.4	52	0.5	150
SM5S48A	SM5S48A	48.0	53.3	58.7	5.0	80.6	45	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

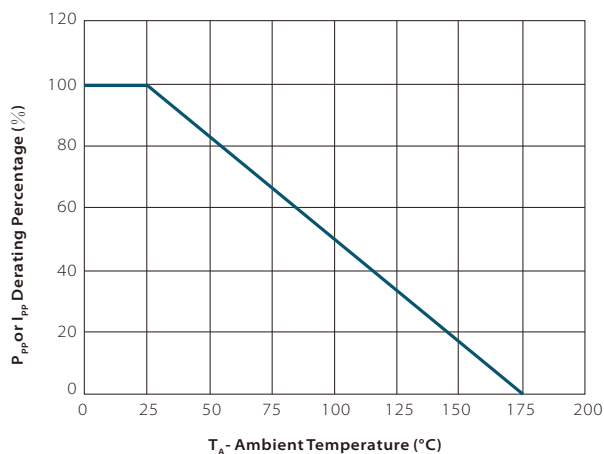


Fig.2 Load Dump Power Characteristics

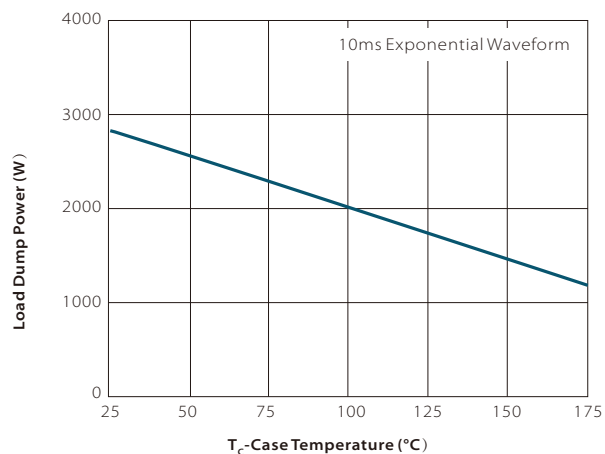


Fig.3 Pulse Waveform

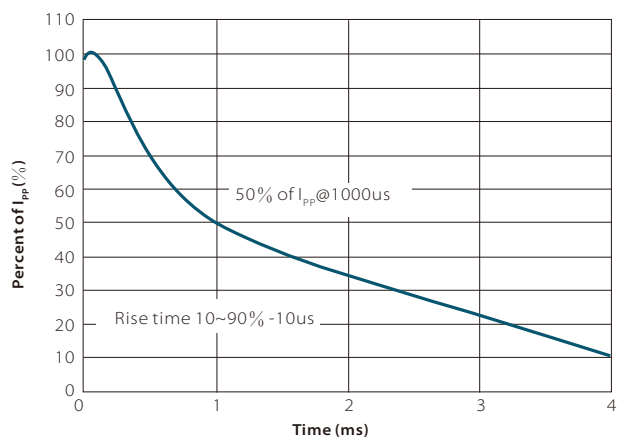


Fig.4 Peak Pulse Power Rating Curve

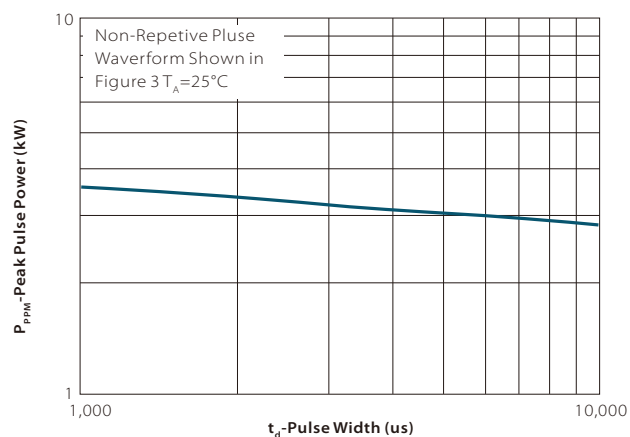


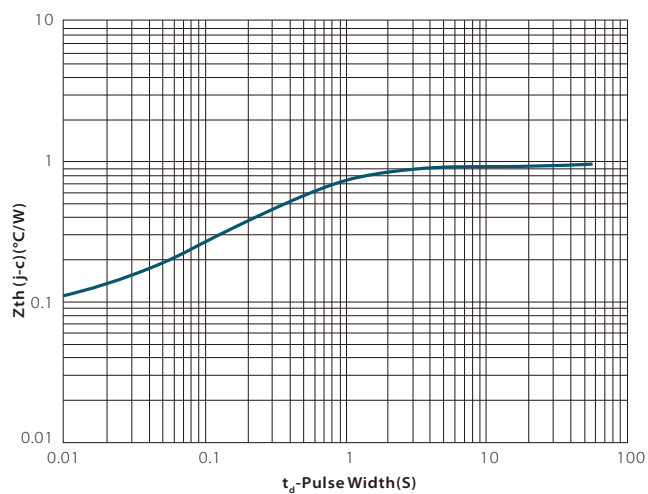
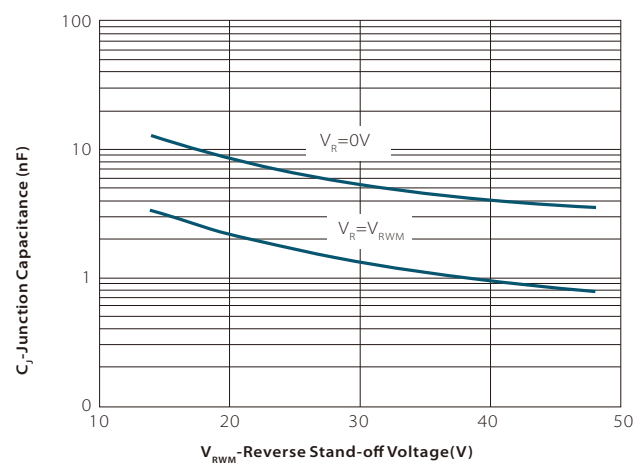
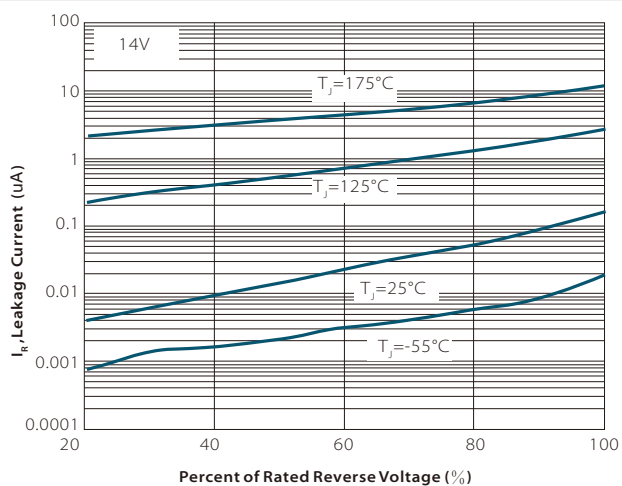
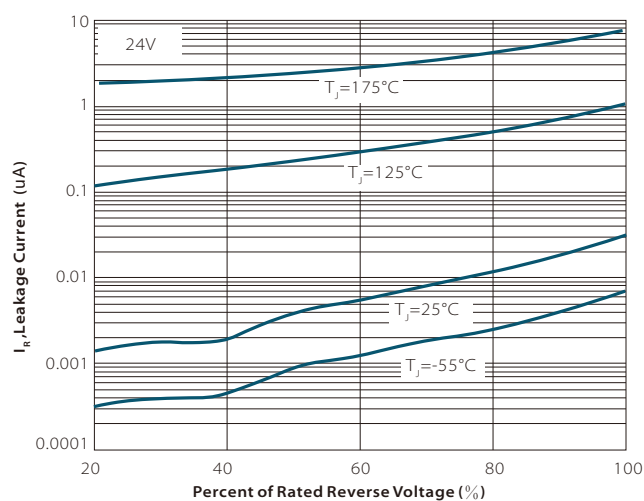
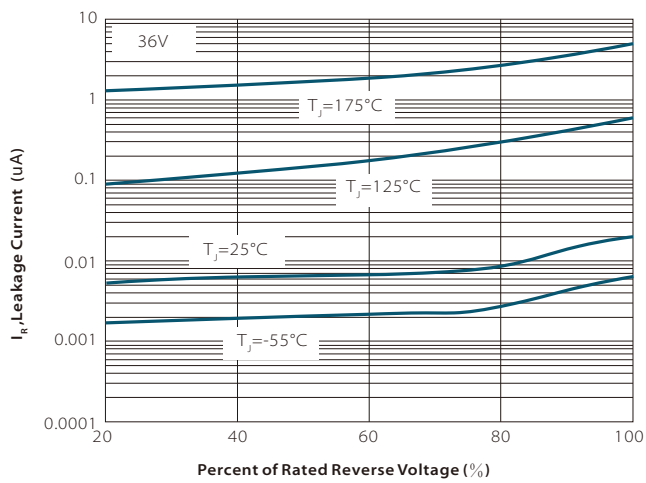
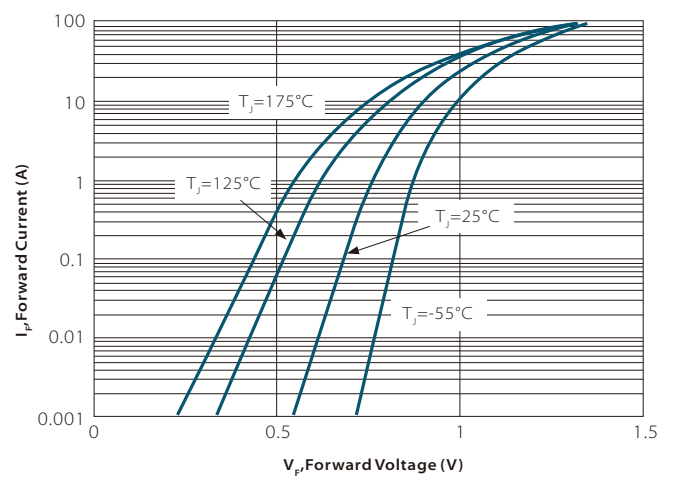
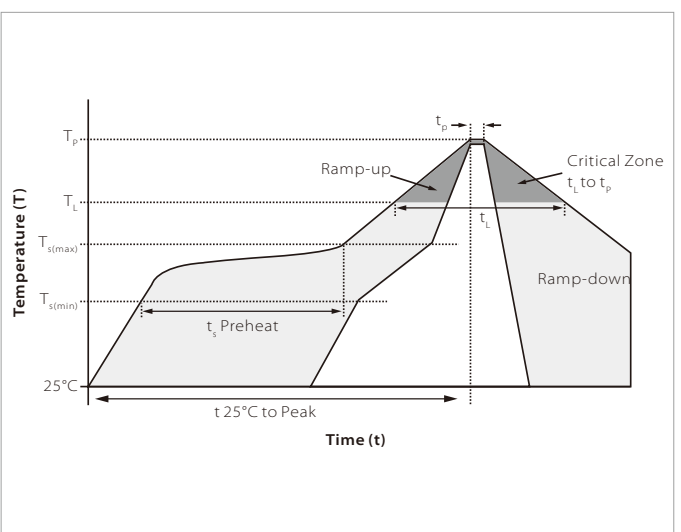
Fig.5 Typical Transient Thermal Impedance

Fig.6 Typical Capacitance

Fig.7 Typical Reverse Characteristics

Fig.8 Typical Reverse Characteristics


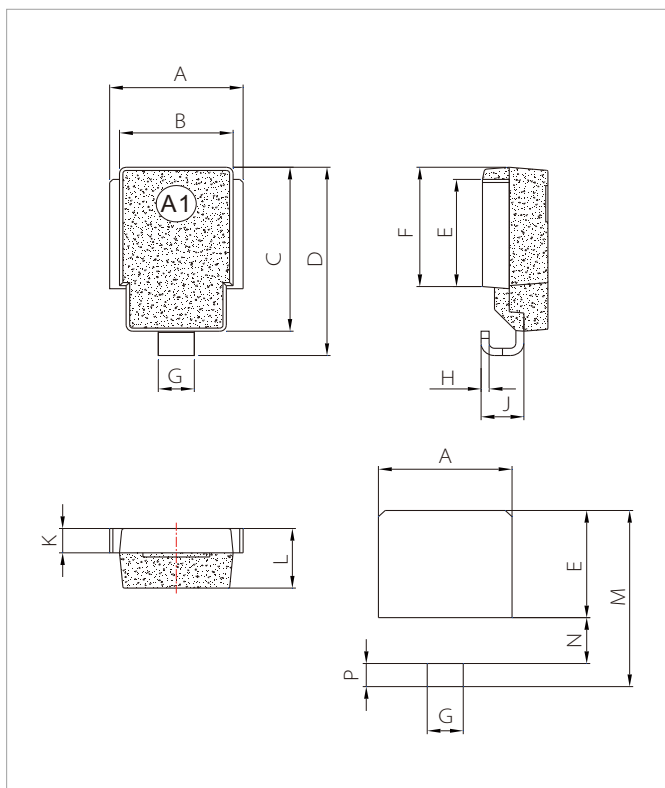
Fig.9 Typical Reverse Characteristics

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_L) (Liquidus)	217°C
	Time (min to max) (t_l)	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-218AB 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
SM5S14A-SM5S48A	DO-218AB	750PCS	13"

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