

FEATURES

ISO10605(C=330 pF,R=330Ω): ±
30kV Air, ± 30kV Contact
HBM $\geq \pm 8$ kV & CDM $\geq \pm 2$ kV
Meets ISO 7637-2 Requirements
Meets MSL Level 1 per J-STD-020
Lead free in compliance with EU
RoHS 2.0
Green molding compound as per
EC 61249 standard

MECHANICAL DATA

Case: Molded plastic, DO-218

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.099 ounces, 2.821 grams
Only suitable for P-type chip

VOLTAGE RANGE

14 to 48 Volts

6600 Watts Peak Power

GK XXX
YY

- "GK" represents the brand name
- "XXX" represents the periodic code
- "YY" represents the product type marking

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	LIMIT	UNITS
10/1,000us Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$	$P_{PPM1}^{(1)}$	6600	W
10/10,000us Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$	P_{PPM2}	5200	W
Peak Surge Current (60Hz half wave)	I_{FSM}	700	A
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.9	$^\circ\text{C/W}$
Power Dissipation on infinite heatsink $T_C = 25^\circ\text{C}$	P_D	8	W
ISO10605(C=330 pF,R=330Ω) Contact	V_{ESD}	30	kV
ISO10605(C=330 pF,R=330Ω) Air	V_{ESD}	30	kV
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 175	$^\circ\text{C}$

RATING AND CHARACTERISTIC CURVES

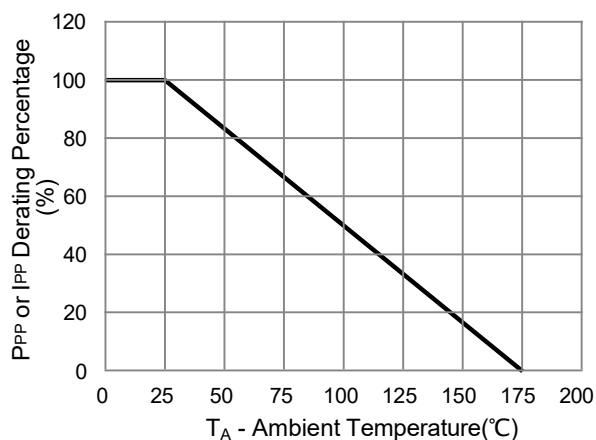


Fig.1 Pulse Power Rating Curve

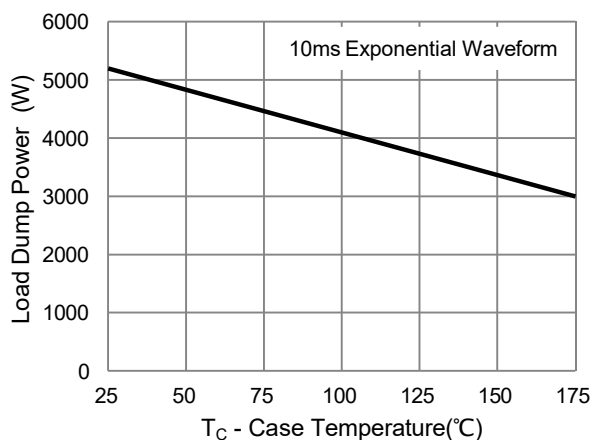


Fig.2 Load Dump Power Characteristics

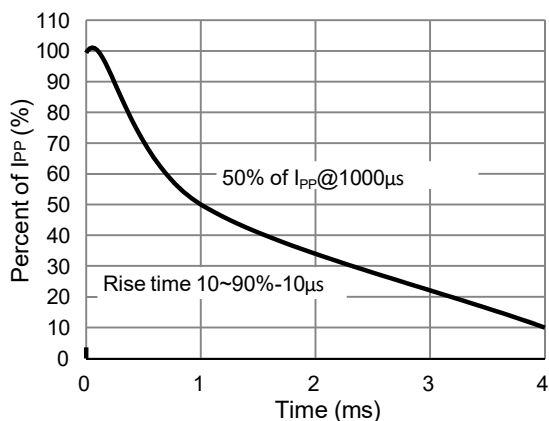


Fig.3 Pulse Waveform

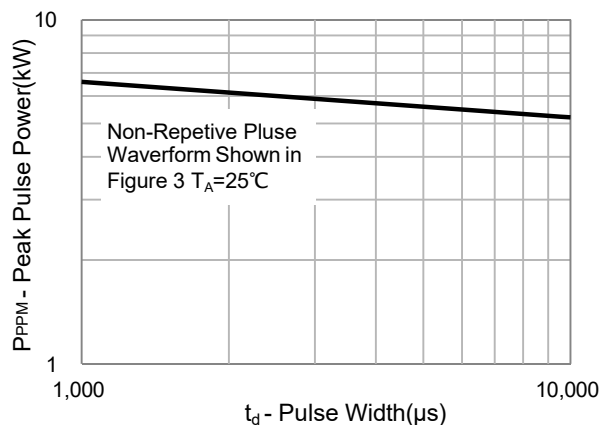


Fig.4 Peak Pulse Power Rating Curve

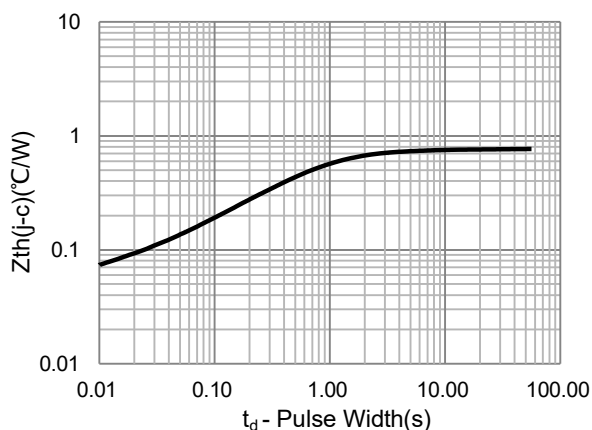


Fig.5 Typical Transient Thermal Impedance

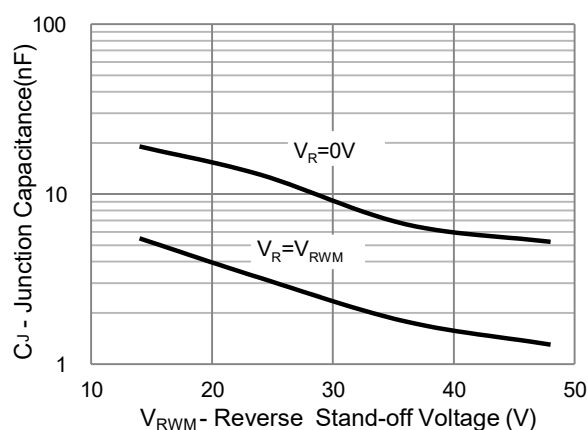


Fig.6 Typical Capacitance

RATING AND CHARACTERISTIC CURVES

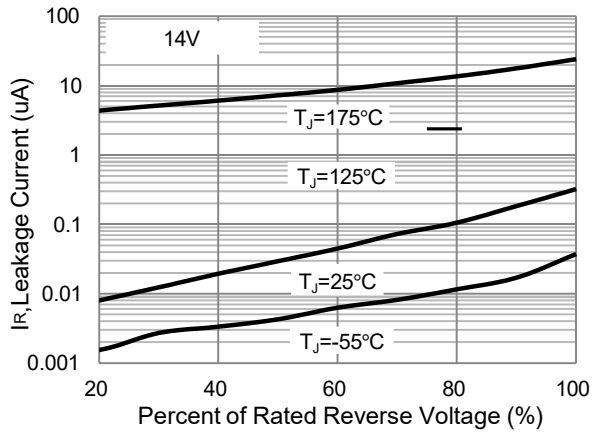


Fig.7 Typical Reverse Characteristics

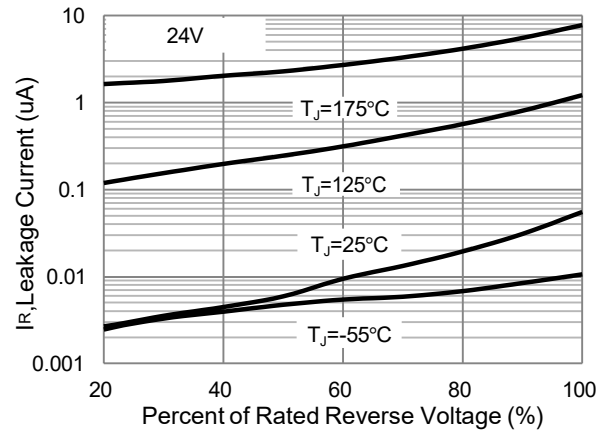


Fig.8 Typical Reverse Characteristics

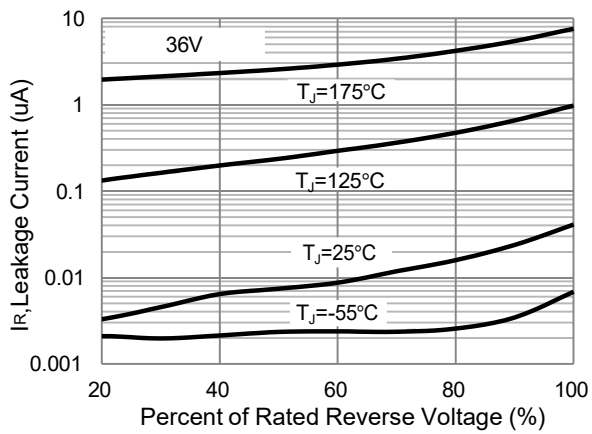


Fig.9 Typical Reverse Characteristics

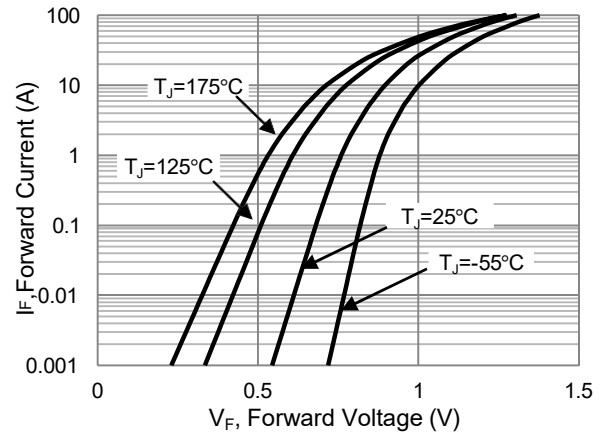


Fig.10 Typical Forward Characteristics

Characteristics at Ta = 25°C

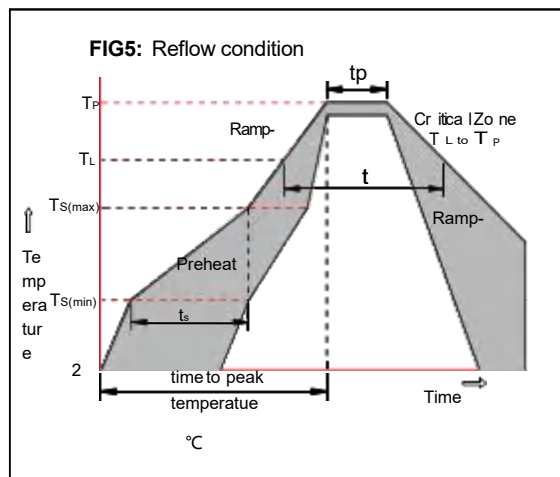
Part Number	V _{RWM}	V _{BR}			Reverse Leakage		V _{C@IPP} ⁽¹⁾	
		Min.	Max.	I _T	I _{R@V_R} WM	I _{R@V_{RWM}} T _J =175 °C		
	V	V	V	mA	uA	uA	V	A
6600W Transient Voltage Suppressor								
SM8S14A/CA	14	15.6	17.2	5	1	150	23.2	284
SM8S15A/CA	15	16.7	18.5	5	1	150	24.4	270
SM8S16A/CA	16	17.8	19.7	5	1	150	26	254
SM8S17A/CA	17	18.9	20.9	5	1	150	27.6	239
SM8S18A/CA	18	20	22.1	5	0.5	150	29.2	226
SM8S20A/CA	20	22.2	24.5	5	0.5	150	32.4	204
SM8S22A/CA	22	24.4	26.9	5	0.5	150	35.5	186
SM8S24A/CA	24	26.7	29.5	5	0.5	150	38.9	170
SM8S26A/CA	26	28.9	31.9	5	0.5	150	42.1	157
SM8S28A/CA	28	31.1	34.4	5	0.5	150	45.4	145
SM8S30A/CA	30	33.3	36.8	5	0.5	150	48.4	136
SM8S33A/CA	33	36.7	40.6	5	0.5	150	53.3	124
SM8S36A/CA	36	40	44.2	5	0.5	150	58.1	114
SM8S40A/CA	40	44.4	49.1	5	0.5	150	64.5	102
SM8S43A/CA	43	47.8	52.8	5	0.5	150	69.4	95
SM8S48A/CA	48	53.3	58.7	5	0.5	150	80.6	82

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.1
2. TVS is a transient protection device, it is strongly recommended not to use as a Zener.
3. Add suffix "CA" after part number to specify Bi-directional devices

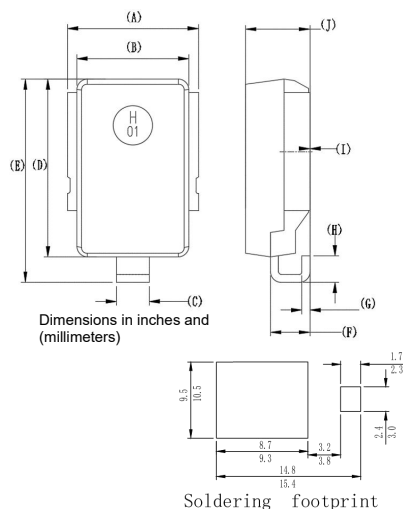
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

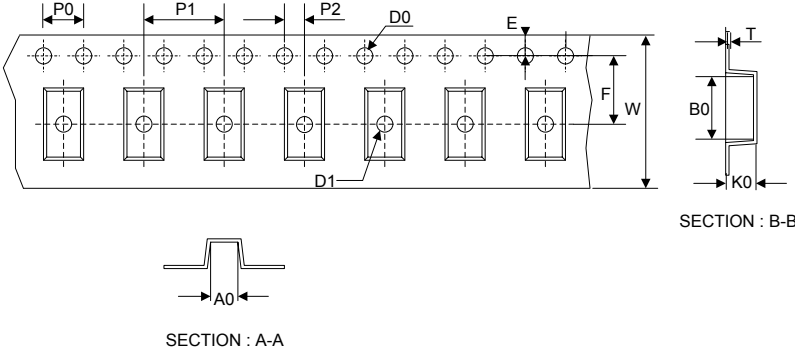
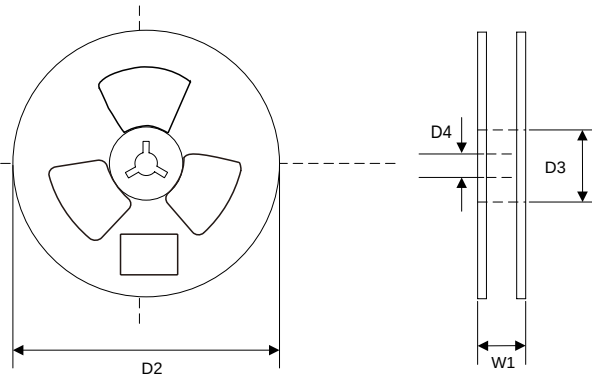
DO-218AB



Dim	Inches		Millimeters	
	Min	Max	Min	Max
A	0.374	0.413	9.50	10.50
B	0.327	0.343	8.30	8.70
C	0.094	0.118	2.40	3.00
D	0.524	0.539	13.30	13.70
E	0.591	0.630	15.00	16.00
F	0.098	0.138	2.50	3.50
G	0.020	0.028	0.50	0.70
H	0.059	0.098	1.50	2.50
I	0.000	0.016	0.00	0.40
J	0.189	0.205	4.80	5.20

Dimensions in inches and (millimeters)

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	16.00±0.20
		P2	2.00±0.20
		D0	1.50±0.20
		D1	1.50±0.20
		E	1.75±0.15
		F	11.50±0.20
		W	24.00±0.20
		A0	10.60±0.20
		B0	15.90±0.20
		K0	5.85±0.20
		T	0.35±0.20
		D2	330.0±5.0
		D3	73Min.
13" Reel		D4	13.5±2.5
		W1	29.0±3.0
		Quantity: 750PCS	