15KASD SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 16 TO 66 Volts

FEATURES

◎ Halogen-Free
◎ RoHS compliant
◎ Glass Passivated Junction technology
◎ T_J = 175 °C capability suitable for high reliability
◎ Both available in uni and bi-polar directional polarity
◎ Low leakage current
◎ Low forward voltage drop for uni-directional polarity
◎ High surge capability
◎ Excellent clamping capability
◎ Peak Pulse Power (10/1000us): 15 kW
◎ Peak Pulse Current (8/20us): 1 kA
◎ AEC-Q101 qualified

TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting.

MECHANICAL DATA

Case: DO-218.Molded plastic over glass passivated junction
Molding compound meets UL 94 V-0 flammability rating

Polarity: Heatsink is anode
Terminal: Solderable per MIL-STD-750, Method 2026
Mounting Position: Any

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform (Note 1、Fig 3)	P_{PPM}	15000	Watts
Peak Pulse Current of on 8/20 μs waveform (Note 1)	I_{PPM}	1000	Amps
Power dissipation on infinite heatsink at TC = 25 °C	P_M (AV)	8	Watts
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 2)	I_{FSM}	700	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 175	℃

Note
(1) Non-repetitive current pulse derated above T_A = 25 °C
(2) 8.3 ms Single Sine Wave duty cycle = 4 pulses maximum per minute (unidirectional units only).

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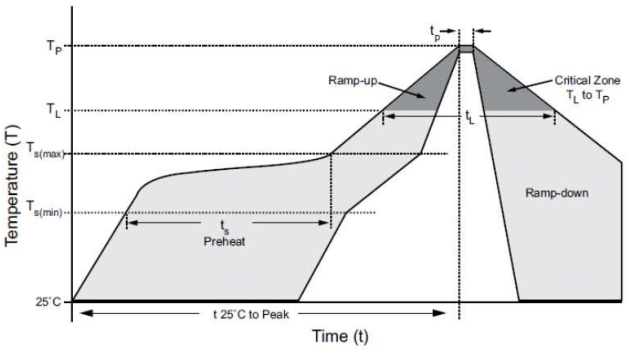
15KW PART NUMBER		REVERSE STAND- OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT I_T (mA)	MAXIMUN CLAMPING VOLTAGE @I_{PP} V_C (V)	PEAK PULSE CURRENT AT 10/1000 μs Ipp (A)	REVERSE LEAKAGE @ V_{RWM} I_R(μA)	Max Clamping Voltage @ 1KA (8/20us)
UNI-POLAR	BI-POLAR		MIN	MAX					
15KASD016	15KASD016C	16.0	16.35	19.70	5	23.9	599.0	10	25.6
15KASD017	15KASD017C	17.0	17.35	20.90	5	27.0	556.6	10	27.2
15KASD018	15KASD018C	18.0	18.34	22.10	5	28.4	527.8	10	28.7
15KASD020	15KASD020C	20.0	20.34	24.50	5	31.6	475.5	10	31.9
15KASD022	15KASD022C	22.0	22.33	26.90	5	34.1	439.6	10	36.0
15KASD024	15KASD024C	24.0	24.49	29.50	5	37.4	400.7	10	38.4
15KASD026	15KASD026C	26.0	26.48	31.90	5	40.5	370.6	10	41.5
15KASD028	15KASD028C	28.0	28.55	34.40	5	43.7	343.3	10	44.7
15KASD030	15KASD030C	30.0	30.54	36.80	5	46.6	321.7	10	47.8
15KASD033	15KASD033C	33.0	33.70	40.60	5	50.3	298.1	10	52.8
15KASD036	15KASD036C	36.0	36.69	44.20	5	55.0	272.7	10	57.5
15KASD040	15KASD040C	40.0	40.75	49.10	5	60.5	247.8	10	64.0
15KASD043	15KASD043C	43.0	43.82	52.80	5	64.2	233.6	10	68.6
	15KASD045C	45.0	45.90	55.30	5	67.3	206.3	10	71.9
	15KASD048C	48.0	48.89	58.90	5	71.5	194.3	10	73.6
	15KASD051C	51.0	52.04	62.70	5	76.3	182.1	10	78.4
	15KASD054C	54.0	55.03	66.30	5	80.7	172.2	10	82.9
	15KASD058C	58.0	59.10	71.20	5	86.3	161.0	10	89.0
	15KASD066C	66.0	66.40	80.00	5	96.9	143.3	10	100.0

Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150℃
	-Temperature Max ($T_{s(max)}$)	200℃
	-Time (min to max) (t_s)	60 -120 secs
Average ramp up rate(Liquidus Temp(T_L) to peak		3℃/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/second max
Reflow	-Temperature Min (T_L)	217℃
	Time (t_L) maintained above T_L	60 - 150 seconds
Peak temperature(T_P)		245 $^{+0/-5}$℃
Time within 5℃ of actual peak Temperature(t_p)		20 - 40 seconds
Ramp-down Rate		6℃/second max
Time 2 5℃ to peak Temperature(T_p)		8 minutes Max.

Soldering Profile



Note：Number of reflow cycles allowed 3 times

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves(T_A=25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating Curve

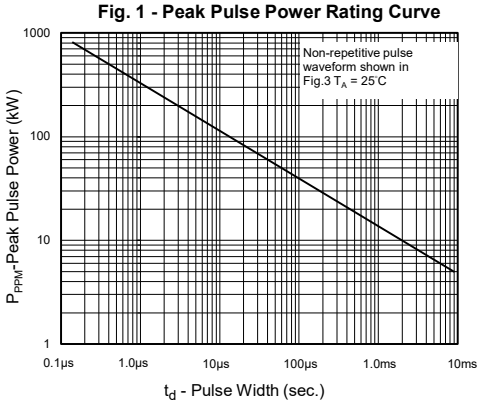
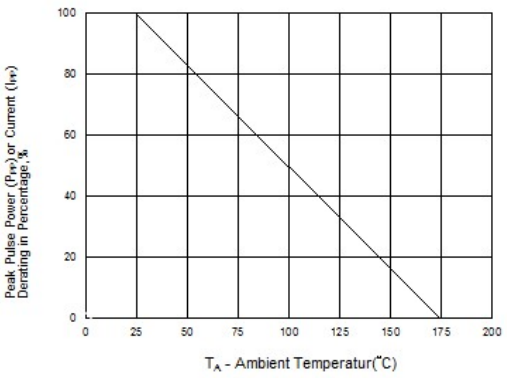


Fig. 2 - Pulse Derating Curve



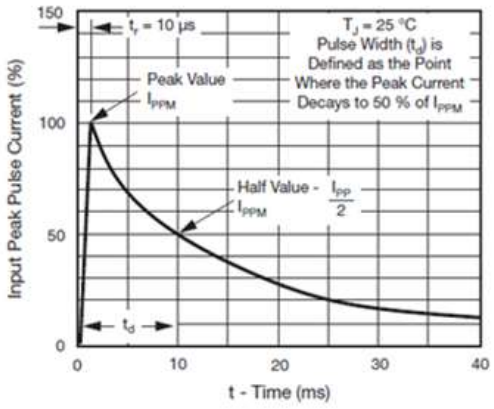


Fig. 3 - Pulse Waveform

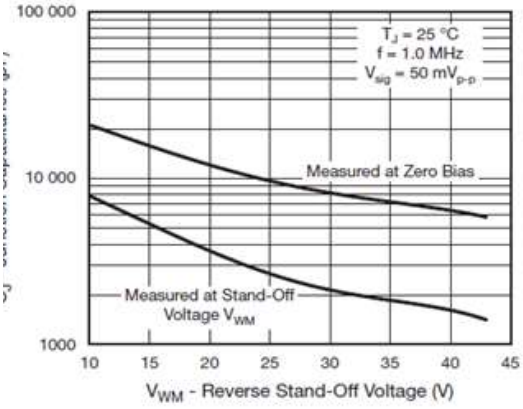


Fig. 4 - Typical Junction Capacitance

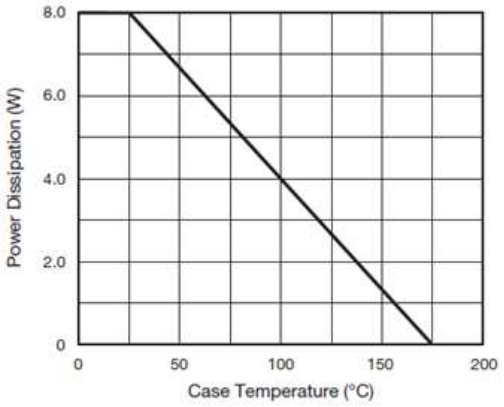


Fig. 5 - Power Derating Curve

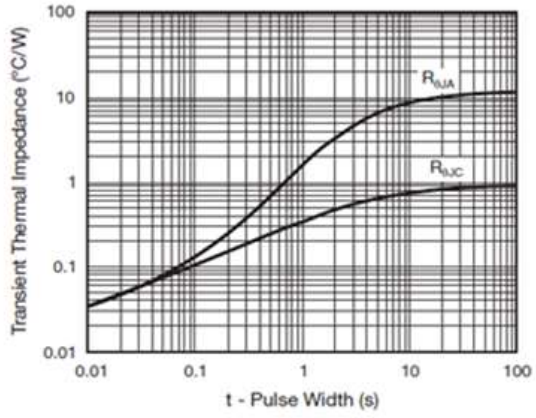
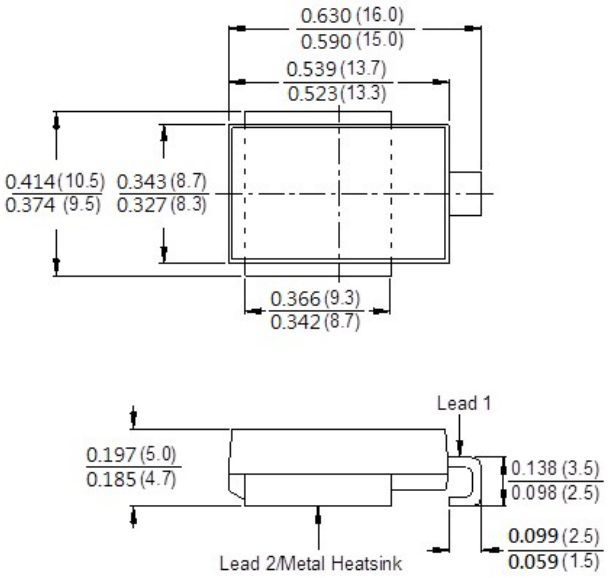
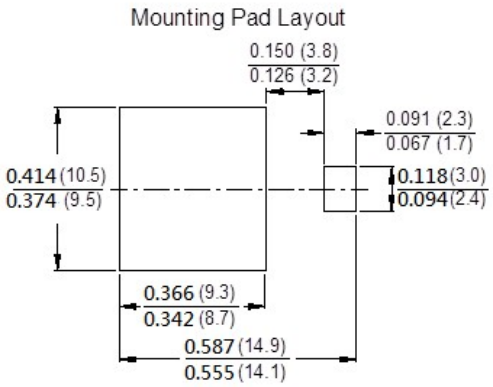


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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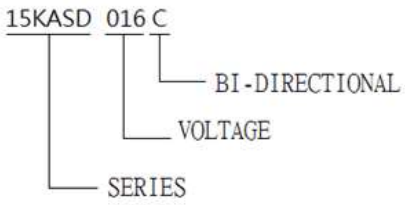
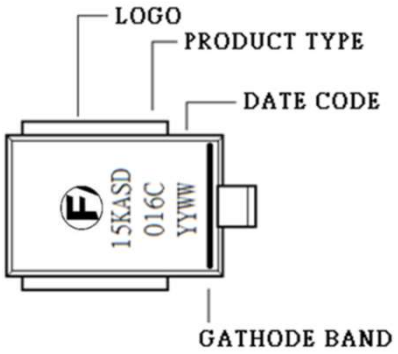
Part Numbering System



Part



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging
15KASDXXXX	DO-218	750	Tape & Reel - 24mm/13" tape	EIA STD RS-481