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SEMICONDUCTOR



ESD



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PLED

1.5KEXXA(CA)-MS

Product specification

FEATURES

- Glass passivated junction
- Low zener impedance
- Excellent clamping capability
- 1500W peak pulse power capability at 10/1000μs waveform, repetition rate (duty cycle): 0.01%
- Fast response time
- Typical IR less than 1μA above 12V.
- High Temperature soldering guaranteed: 265℃/10 seconds/.375" , (9.5mm) lead length, 5lbs (2.3kg) tension
- Plastic package has underwriters laboratory flammability 94V-0
- Meets MSL level 1, per J-STD-020.
- Safety certification: UL
- IEC61000-4-2 ESD 30KV Air, 30KV contact compliance

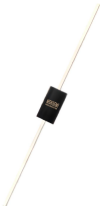
Mechanical Data

- Case: JEDEC DO-201 Moulded plastic
- Terminal: Plated Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode except bi-directional models
- Mounting Position: Any
- Weight: 0.97g

Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Reference News

UNI-DIRECTIONAL	PIN CONFIGURATION	MARKING INFORMATION
		
BI-DIRECTIONAL	PIN CONFIGURATION	MARKING INFORMATION
		

Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000μs waveform (Note1, Fig.1)	P _{PPM}	Minimum 1500	Watts
Peak pulse current of at 10/1000μs waveform (Note 1, Fig.3)	I _{PPM}	See Table	Amps
Steady state power dissipation at T _L =75°C (Fig.5)	P _{M(AV)}	6.5	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note2, Fig.6)	I _{FSM}	200	Amps
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to +150	°C
Typical thermal resistance junction to lead	R _{θJL}	15	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	75	°C/W

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.

2. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Electrical Characteristics (T_A=25°C)

Part Number		Stand-Off	Breakdown Voltage @I _r	Test Current	Maximum Clamping Voltage @ I _{PP}	Pulse Current	Reverse Leakage
Unidirectional	Bidirectional	V _{RWM} (V)	V _{BR} (V)	I _r (mA)	V _c (V)	I _{PP} (A)	I _r (μA)
1.5KE6.8A-MS	1.5KE6.8CA-MS	5.80	6.45~7.14	10	10.5	144.8	1000
1.5KE7.5A-MS	1.5KE7.5CA-MS	6.40	7.13~7.88	10	11.3	134.5	500
1.5KE8.2A-MS	1.5KE8.2CA-MS	7.02	7.79~8.61	10	12.1	125.6	200
1.5KE9.1A-MS	1.5KE9.1CA-MS	7.78	8.65~9.55	1	13.4	113.4	50
1.5KE10A-MS	1.5KE10CA-MS	8.55	9.50~10.50	1	14.5	104.8	10
1.5KE11A-MS	1.5KE11CA-MS	9.40	10.50~11.60	1	15.6	97.4	5
1.5KE12A-MS	1.5KE12CA-MS	10.20	11.40~12.60	1	16.7	91.0	5
1.5KE13A-MS	1.5KE13CA-MS	11.10	12.40~13.70	1	18.2	83.5	1
1.5KE15A-MS	1.5KE15CA-MS	12.80	14.30~15.80	1	21.2	71.7	1
1.5KE16A-MS	1.5KE16CA-MS	13.60	15.20~16.80	1	22.5	67.6	1
1.5KE18A-MS	1.5KE18CA-MS	15.30	17.10~18.90	1	25.2	60.3	1
1.5KE20A-MS	1.5KE20CA-MS	17.10	19.00~21.00	1	27.7	54.9	1
1.5KE22A-MS	1.5KE22CA-MS	18.80	20.90~23.10	1	30.6	49.7	1
1.5KE24A-MS	1.5KE24CA-MS	20.50	22.80~25.20	1	33.2	45.8	1
1.5KE27A-MS	1.5KE27CA-MS	23.10	25.70~28.40	1	37.5	40.5	1
1.5KE30A-MS	1.5KE30CA-MS	25.60	28.50~31.50	1	41.4	36.7	1
1.5KE33A-MS	1.5KE33CA-MS	28.20	31.40~34.70	1	45.7	33.3	1

Electrical Characteristics (T_A=25°C)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @I _r	Test Current	Maximum Clamping Voltage @ I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Unidirectional	Bidirectional	V _{RWM} (V)	V _{BR} (V)	I _r (mA)	V _C (V)	I _{PP} (A)	I _r (μA)
1.5KE36A-MS	1.5KE36CA-MS	30.80	34.20~37.80	1	49.9	30.5	1
1.5KE39A-MS	1.5KE39CA-MS	33.30	37.10~41.00	1	53.9	28.2	1
1.5KE43A-MS	1.5KE43CA-MS	36.80	40.90~45.20	1	59.3	25.6	1
1.5KE47A-MS	1.5KE47CA-MS	40.20	44.70~49.40	1	64.8	23.5	1
1.5KE51A-MS	1.5KE51CA-MS	43.60	48.50~53.60	1	70.1	21.7	1
1.5KE56A-MS	1.5KE56CA-MS	47.80	53.20~58.80	1	77.0	19.7	1
1.5KE62A-MS	1.5KE62CA-MS	53.00	58.90~65.10	1	85.0	17.9	1
1.5KE68A-MS	1.5KE68CA-MS	58.10	64.60~71.40	1	92.0	16.5	1
1.5KE75A-MS	1.5KE75CA-MS	64.10	71.30~78.80	1	103.0	14.8	1
1.5KE82A-MS	1.5KE82CA-MS	70.10	77.90~86.10	1	113.0	13.5	1
1.5KE91A-MS	1.5KE91CA-MS	77.80	86.50~95.50	1	125.0	12.2	1
1.5KE100A-MS	1.5KE100CA-MS	85.50	95.00~105.00	1	137.0	11.1	1
1.5KE110A-MS	1.5KE110CA-MS	94.00	105.00~116.00	1	152.0	10.0	1
1.5KE120A-MS	1.5KE120CA-MS	102.00	114.00~126.00	1	165.0	9.2	1
1.5KE130A-MS	1.5KE130CA-MS	111.00	124.00~137.00	1	179.0	8.5	1
1.5KE150A-MS	1.5KE150CA-MS	128.00	143.00~158.00	1	207.0	7.3	1
1.5KE160A-MS	1.5KE160CA-MS	136.00	152.00~168.00	1	219.0	6.9	1
1.5KE170A-MS	1.5KE170CA-MS	145.00	162.00~179.00	1	234.0	6.5	1
1.5KE180A-MS	1.5KE180CA-MS	154.00	171.00~189.00	1	246.0	6.2	1
1.5KE200A-MS	1.5KE200CA-MS	171.00	190.00~210.00	1	274.0	5.5	1
1.5KE220A-MS	1.5KE220CA-MS	185.00	209.00~231.00	1	328.0	4.6	1
1.5KE250A-MS	1.5KE250CA-MS	214.00	237.00~263.00	1	344.0	4.4	1
1.5KE300A-MS	1.5KE300CA-MS	256.00	285.00~315.00	1	414.0	3.7	1
1.5KE350A-MS	1.5KE350CA-MS	300.00	332.00~368.00	1	482.0	3.2	1
1.5KE400A-MS	1.5KE400CA-MS	342.00	380.00~420.00	1	548.0	2.8	1
1.5KE440A-MS	1.5KE440CA-MS	376.00	418.00~462.00	1	602.0	2.5	1
1.5KE480A-MS	1.5KE480CA-MS	408.00	456.00~504.00	1	658.0	2.3	1
1.5KE510A-MS	1.5KE510CA-MS	434.00	485.00~535.00	1	698.0	2.1	1
1.5KE530A-MS	1.5KE530CA-MS	450.00	503.50~556.50	1	725.0	2.1	1
1.5KE540A-MS	1.5KE540CA-MS	459.00	513.00~567.00	1	740.0	2.0	1
1.5KE550A-MS	1.5KE550CA-MS	467.00	522.50~577.50	1	760.0	2.0	1
1.5KE600A-MS	1.5KE600CA-MS	510.00	570.00~630.00	1	828.0	1.8	1

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

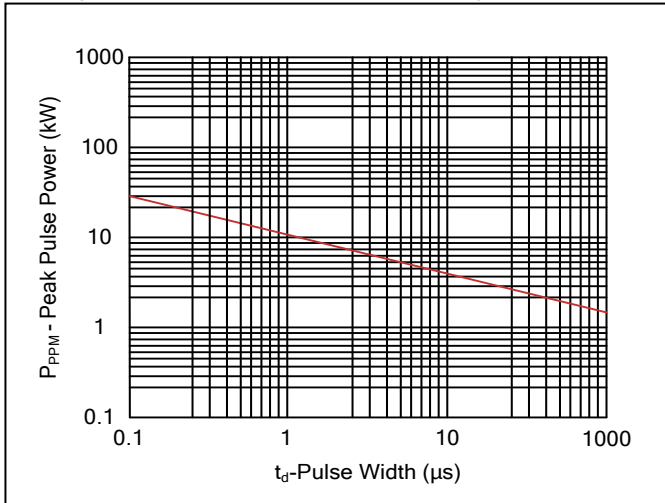


Figure 2. Pulse Derating Curve

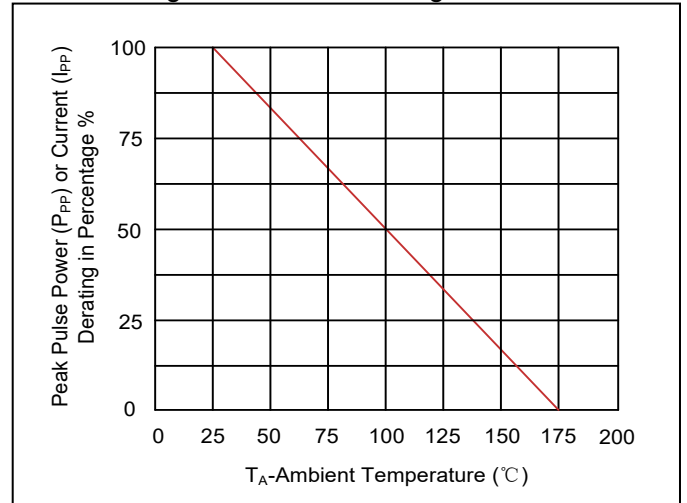


Figure 3. Pulse Waveform

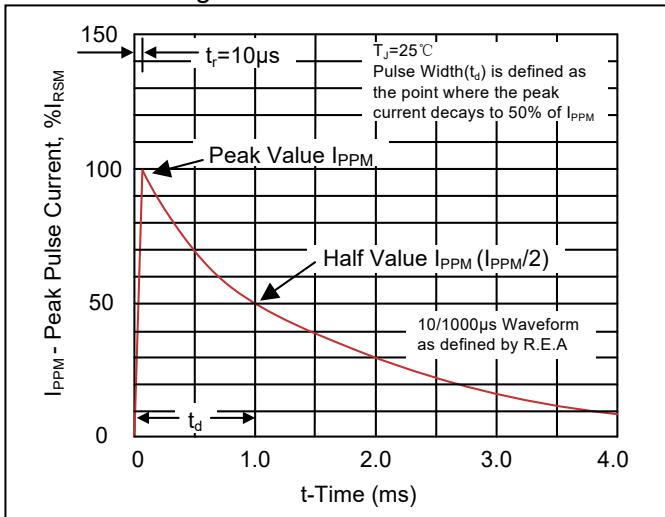


Figure 4. Typical Junction Capacitance

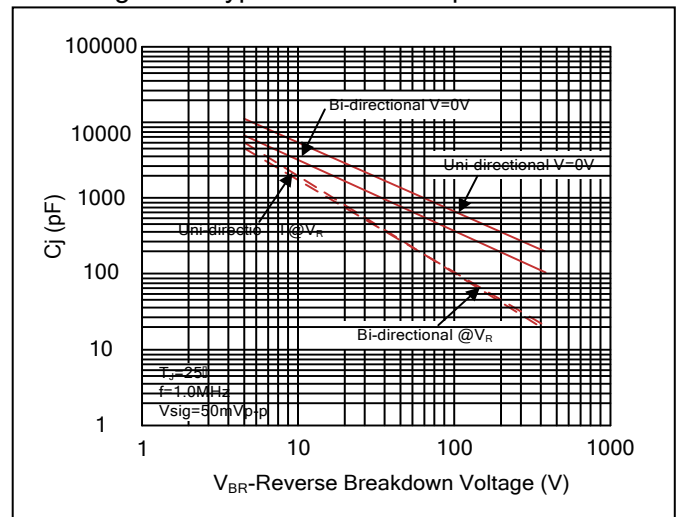


Figure 5. Steady State Power Dissipation Derating Curve

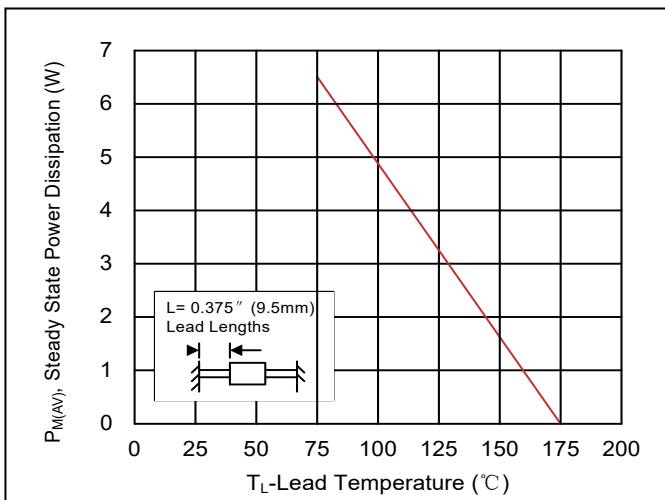
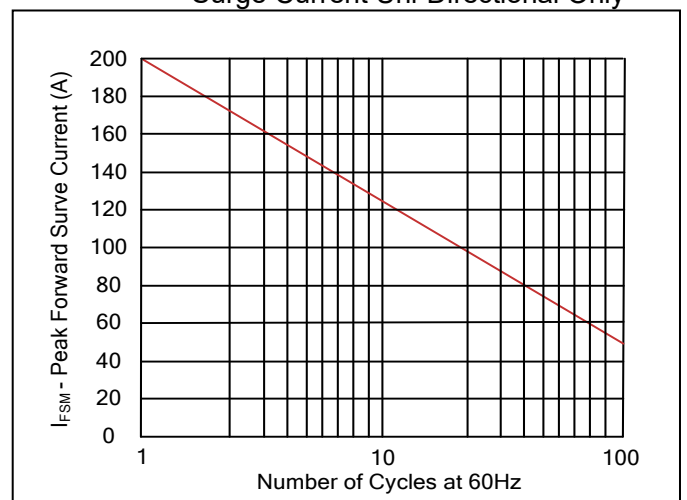
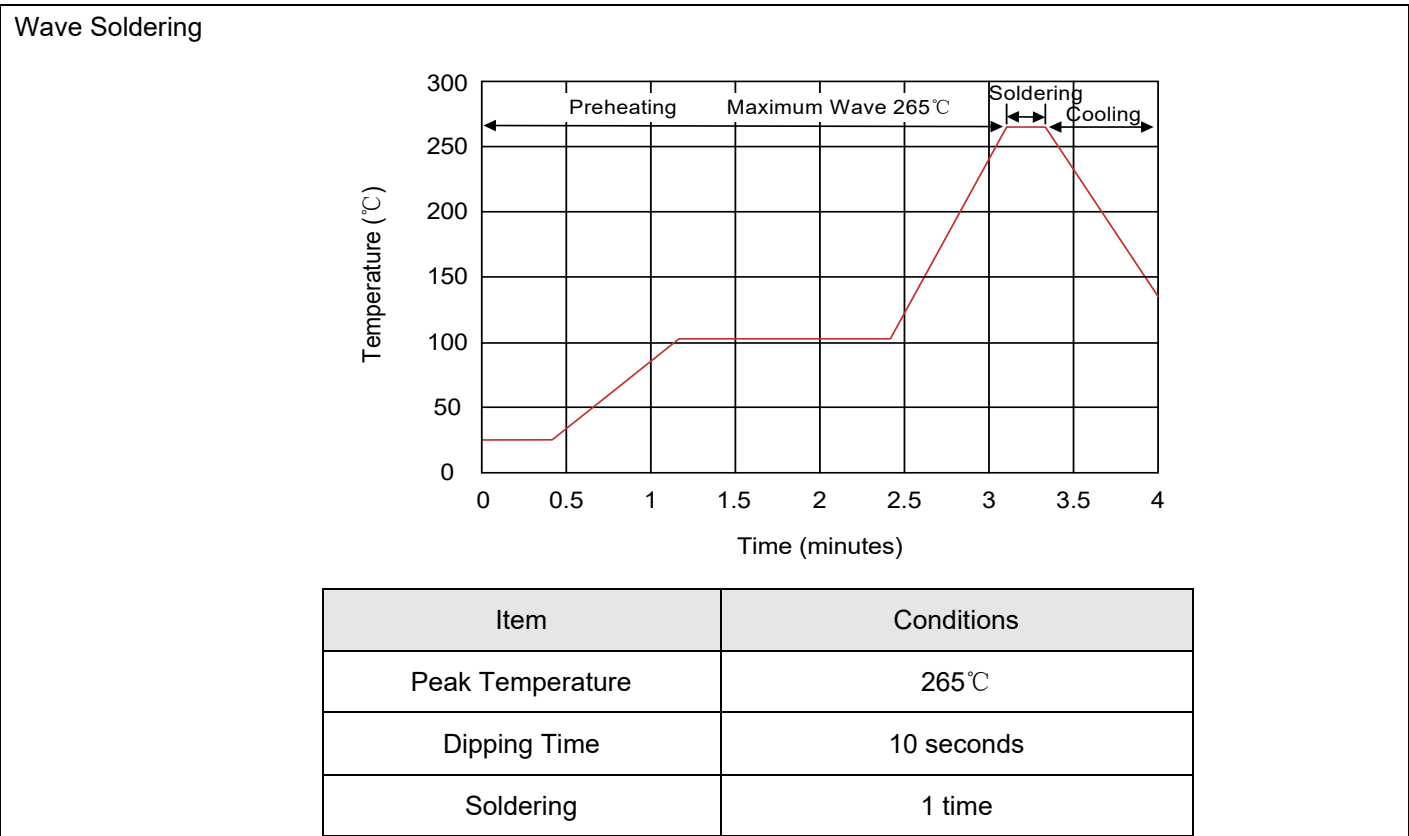


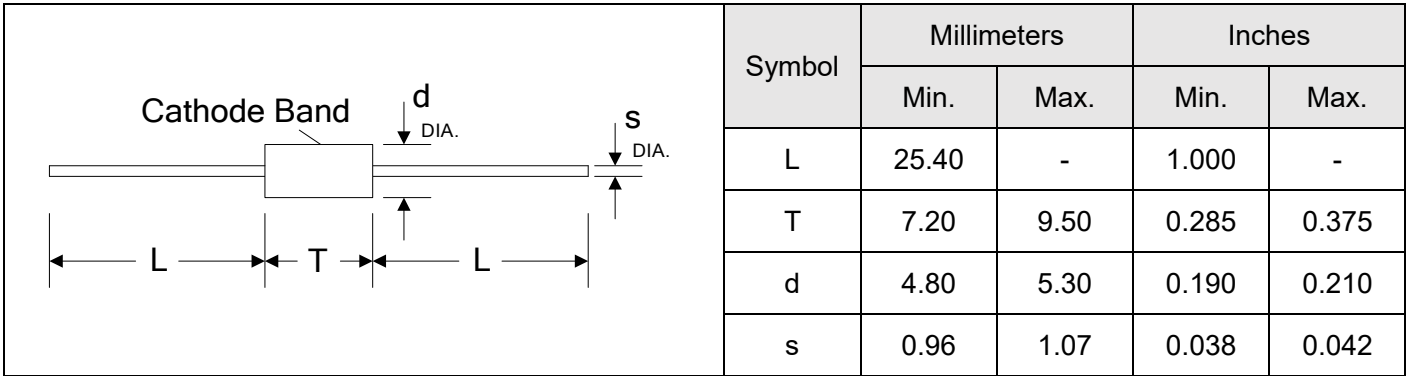
Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



Recommended Soldering Conditions



Dimensions (DO-201)



Order information

Orderable Device	Package	Packing Option
1.5KEXXA(CA)-MS	DO-201	1000 per box

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