

Transient Voltage Suppression Diodes

1.5KEG Series, 1.5kW

multicomp PRO

**RoHS
Compliant**



Features

- Glass Passivated (GPP)
- Low leakage
- Uni and bi-directional versions available
- Excellent clamping capability
- Fast response time
- Lead free
- Case style: DO-201AE molded plastic

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	Values	Unit
Peak Power Dissipation at $T_A = 25^\circ\text{C}$ $T_P = 1\text{ms}$ (Note 1)	P_{PK}	1500 (Min)	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I_{FSM}	200	A
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 0.375"(9.5mm), See Fig. 6	$P_{M(AV)}$	5	W
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Devices Only (Note 2)	V_F	See Note 3	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	

- Notes:**
1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 1.
 2. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).
 3. $V_F = 3.5\text{V}$ on 1.5KEG6.8 thru 1.5KEG200A devices and $V_F = 5\text{V}$ on 1.5KEG220 thru 1.5KEG400A devices.

Rating and Characteristic Curves

Fig. 1 - Maximum Non-Repetitive Peak Forward Surge Current

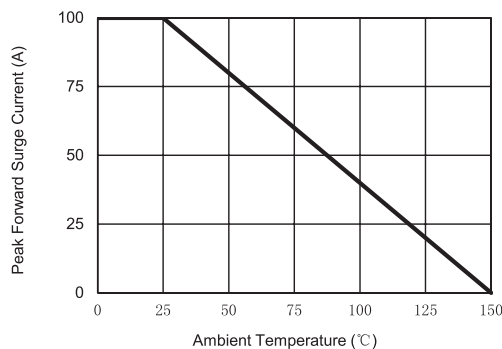
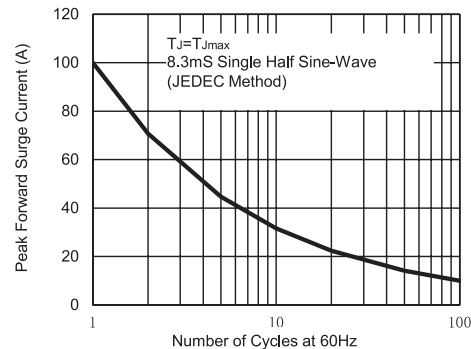
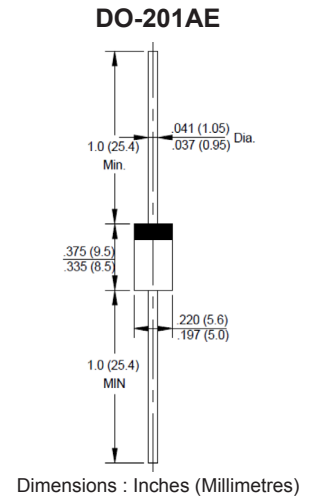


Fig. 2 - Maximum Non-Repetitive Surge Current



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Fig. 3 - Pulse Waveform

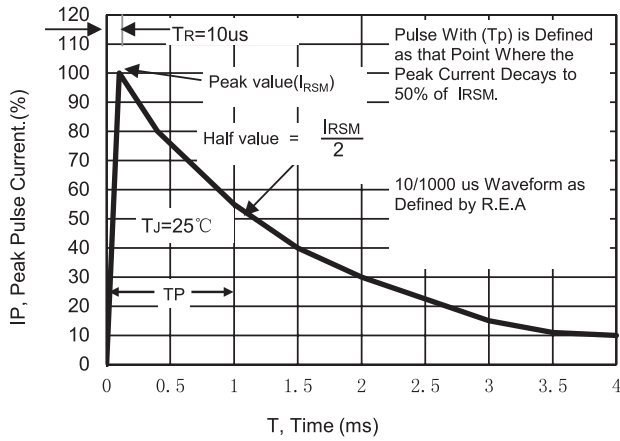


Fig. 5 - Pulse Rating Curve

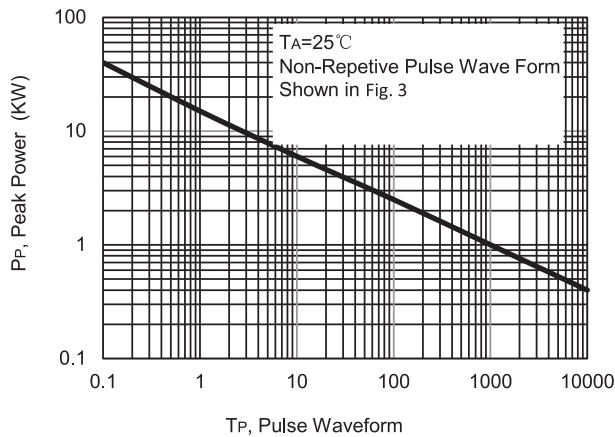


Fig. 4- Typical Junction Capacitance

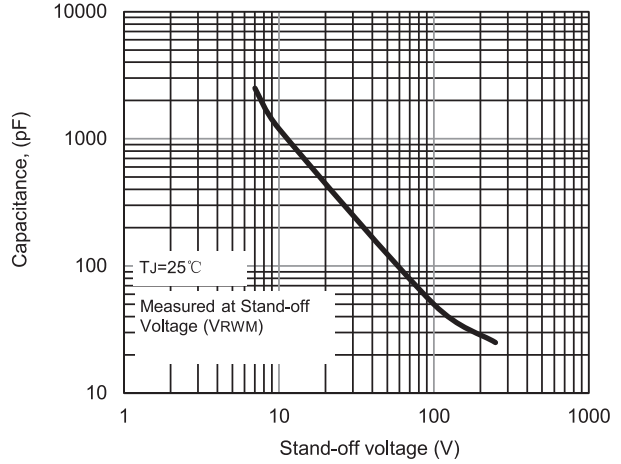
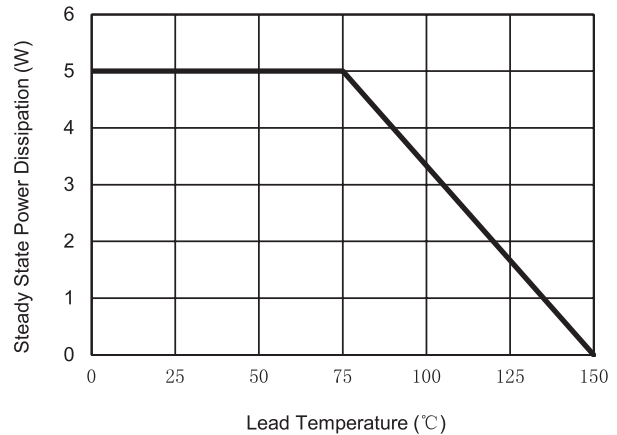


Fig. 6 - Steady State Power Derating Curve



Part Number		Reverse Stand off Voltage	Breakdown Voltage at IT			Max. Reverse Leakage at V _R	Max. Clamping Voltage at I _{PPM}	Max. Peak Pulse Surge Current	Max. Voltage Temp.
Uni-directional	Bi-directional		Min. (V)	Max. (V)	I _t (mA)				
(UNI)	(BI)	V _R (V)				I _R (μA)	V _c (V)	I _{pp} (A)	mV/°C
1.5KEG6.8A	1.5KEG6.8CA	5.8	6.45	7.14	10	1000	10.5	143	0.057
1.5KEG7.5A	1.5KEG7.5CA	6.4	7.13	7.88	10	500	11.3	132	0.061
1.5KEG8.2A	1.5KEG8.2CA	7.02	7.79	8.61	10	200	12.1	124	0.065
1.5KEG10A	1.5KEG10CA	8.55	9.5	10.5	1	10	14.5	103	0.073
1.5KEG12A	1.5KEG12CA	10.2	11.4	12.6	1	5	16.7	90	0.078
1.5KEG13A	1.5KEG13CA	11.1	12.4	13.7	1	5	18.2	82	0.081

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Part Number		Reverse Stand off Voltage	Breakdown Voltage at IT V(BR) (V)			Max. Reverse Leakage at Vr	Max. Clamping Voltage at IPPM	Max. Peak Pulse Surge Current	Max. Voltage Temp.
Uni-directional	Bi-directional		Min. (V)	Max. (V)	It (mA)				
(UNI)	(BI)	Vr(V)				IR(μA)	Vc(V)	Ipp(A)	mV/°C
1.5KEG15A	1.5KEG15CA	12.8	14.3	15.8	1	5	21.2	71	0.084
1.5KEG16A	1.5KEG16CA	13.6	15.2	16.8	1	5	22.5	67	0.086
1.5KEG18A	1.5KEG18CA	15.3	17.1	18.9	1	5	25.2	59.5	0.088
1.5KEG20A	1.5KEG20CA	17.1	19	21	1	5	27.7	54	0.090
1.5KEG22A	1.5KEG22CA	18.8	20.9	23.1	1	5	30.6	49	0.092
1.5KEG24A	1.5KEG24CA	20.5	22.8	25.2	1	5	33.2	45	0.094
1.5KEG27A	1.5KEG27CA	23.1	25.7	28.4	1	5	37.5	40	0.096
1.5KEG30A	1.5KEG30CA	25.6	28.5	31.5	1	5	41.4	36	0.097
1.5KEG33A	1.5KEG33CA	28.2	31.4	34.7	1	5	45.7	33	0.098
1.5KEG36A	1.5KEG36CA	30.8	34.2	37.8	1	5	49.9	30	0.099
1.5KEG39A	1.5KEG39CA	33.3	37.1	41	1	5	53.9	28	0.1
1.5KEG43A	1.5KEG43CA	36.8	40.9	45.2	1	5	59.3	25.3	0.101
1.5KEG47A	1.5KEG47CA	40.2	44.7	49.4	1	5	64.8	23.2	0.101
1.5KEG51A	1.5KEG51CA	43.6	48.5	53.6	1	5	70.1	21.4	0.102
1.5KEG56A	1.5KEG56CA	47.8	53.2	58.8	1	5	77	19.5	0.103
1.5KEG62A	1.5KEG62CA	53	58.9	65.1	1	5	85	17.7	0.104
1.5KEG68A	1.5KEG68CA	58.1	64.6	71.4	1	5	92	16.3	0.104
1.5KEG75A	1.5KEG75CA	64.7	71.3	78.8	1	5	103	14.6	0.105
1.5KEG91A	1.5KEG91CA	77.8	86.5	95.5	1	5	125	12	0.106
1.5KEG100A	1.5KEG100CA	85.5	95	105	1	5	137	11	0.106
1.5KEG160A	1.5KEG160CA	136	152	168	1	5	219	6.8	0.108
1.5KEG180A	-	154	171	189	1	5	246	6.1	0.108
1.5KEG200A	-	171	190	210	1	5	274	5.5	0.108
-	1.5KEG250CA	214	237	263	1	5	344.4	5	0.11
1.5KEG400A	1.5KEG400CA	342	380	420	1	5	548	4	0.11

Note: Suffix 'C' denotes bidirectional device. Suffix 'A' denotes 5% tolerance device.

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Part Number Table

Description	Part Number
TVS Diode, 1.5kW, 6.8V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG6.8A
TVS Diode, 1.5kW, 6.8V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG6.8CA
TVS Diode, 1.5kW, 7.5V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG7.5A
TVS Diode, 1.5kW, 7.5V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG7.5CA
TVS Diode, 1.5kW, 8.2V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG8.2A
TVS Diode, 1.5kW, 8.2V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG8.2CA
TVS Diode, 1.5kW, 10V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG10A
TVS Diode, 1.5kW, 10V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG10CA
TVS Diode, 1.5kW, 12V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG12A
TVS Diode, 1.5kW, 12V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG12CA
TVS Diode, 1.5kW, 13V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG13A
TVS Diode, 1.5kW, 13V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG13CA
TVS Diode, 1.5kW, 15V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG15A
TVS Diode, 1.5kW, 15V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG15CA
TVS Diode, 1.5kW, 16V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG16A
TVS Diode, 1.5kW, 16V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG16CA
TVS Diode, 1.5kW, 18V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG18A
TVS Diode, 1.5kW, 18V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG18CA
TVS Diode, 1.5kW, 20V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG20A
TVS Diode, 1.5kW, 20V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG20CA
TVS Diode, 1.5kW, 22V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG22A
TVS Diode, 1.5kW, 22V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG22CA
TVS Diode, 1.5kW, 24V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG24A
TVS Diode, 1.5kW, 24V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG24CA
TVS Diode, 1.5kW, 27V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG27A
TVS Diode, 1.5kW, 27V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG27CA
TVS Diode, 1.5kW, 30V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG30A
TVS Diode, 1.5kW, 30V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG30CA
TVS Diode, 1.5kW, 33V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG33A
TVS Diode, 1.5kW, 33V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG33CA
TVS Diode, 1.5kW, 36V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG36A
TVS Diode, 1.5kW, 36V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG36CA
TVS Diode, 1.5kW, 39V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG39A
TVS Diode, 1.5kW, 39V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG39CA
TVS Diode, 1.5kW, 43V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG43A
TVS Diode, 1.5kW, 43V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG43CA
TVS Diode, 1.5kW, 47V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG47A
TVS Diode, 1.5kW, 47V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG47CA

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Description	Part Number
TVS Diode, 1.5kW, 51V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG51A
TVS Diode, 1.5kW, 51V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG51CA
TVS Diode, 1.5kW, 56V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG56A
TVS Diode, 1.5kW, 56V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG56CA
TVS Diode, 1.5kW, 62V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG62A
TVS Diode, 1.5kW, 62V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG62CA
TVS Diode, 1.5kW, 68V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG68A
TVS Diode, 1.5kW, 68V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG68CA
TVS Diode, 1.5kW, 75V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG75A
TVS Diode, 1.5kW, 75V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG75CA
TVS Diode, 1.5kW, 91V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG91A
TVS Diode, 1.5kW, 91V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG91CA
TVS Diode, 1.5kW, 100V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG100A
TVS Diode, 1.5kW, 100V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG100CA
TVS Diode, 1.5kW, 160V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG160A
TVS Diode, 1.5kW, 160V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG160CA
TVS Diode, 1.5kW, 180V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG180A
TVS Diode, 1.5kW, 200V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG200A
TVS Diode, 1.5kW, 250V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG250CA
TVS Diode, 1.5kW, 400V _{BR} Nom, Unidirectional, DO-201AE	1.5KEG400A
TVS Diode, 1.5kW, 400V _{BR} Nom, Bidirectional, DO-201AE	1.5KEG400CA

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