MAXIMUM RATINGS

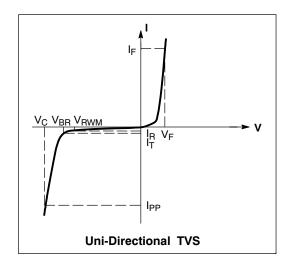
Rating	Symbol	Value	Unit
Peak Power Dissipation (Note 1) @ T _L ≤ 25°C	P _{PK}	1500	W
Steady State Power Dissipation @ T _L ≤ 75°C, Lead Length = 3/8 in Derated above T ₁ = 75°C	P _D	5.0	W mW/°C
Thermal Resistance, Junction-to-Lead	$R_{ heta JL}$	20	°C/W
Forward Surge Current (Note 2) @ T _A = 25°C	I _{FSM}	200	Α
Operating and Storage Temperature Range	T _J , T _{stg}	- 65 to +175	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

- Nonrepetitive current pulse per Figure 5 and derated above T_A = 25°C per Figure 2.
 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}C$ unless otherwise noted, $V_F = 3.5$ V Max., I_F (Note 3) = 100 A)

Symbol	Parameter					
I _{PP}	Maximum Reverse Peak Pulse Current					
V _C	Clamping Voltage @ I _{PP}					
V_{RWM}	Working Peak Reverse Voltage					
I _R	Maximum Reverse Leakage Current @ V _{RWM}					
V_{BR}	Breakdown Voltage @ I _T					
Ι _Τ	Test Current					
ΘV_{BR}	Maximum Temperature Coefficient of V _{BR}					
lF	Forward Current					
V _F	Forward Voltage @ I _F					



ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted, V_F = 3.5 V Max. @ I_F (Note 3) = 100 A)

Device Device (Note 4) (Note 5) I _R @ V _{RWM} V _{BR} (Note 6) (Votts) @ I _T V _C I _P ØV _{BR} 1.5KE6.B.A, G 1.0Te6.P.A, G 5.8 1000 6.45 6.8 7.14 10 10.5 14.3 0.057 1.5KE7.S.A 1.0Te6.P.A, G 5.8 1000 7.13 7.5 7.88 10 11.3 132 0.061 1.5KE8.2A, G 1.0Te6.P.A, G 7.02 200 7.79 8.2 8.61 10 12.1 124 0.065 1.5KE9.1A, G 1.0Te7.A, G 7.78 50 8.65 9.1 9.55 1 13.4 112 0.068 1.5KE11A, G 1.0Te7.A, G 8.55 10 9.5 10 10.5 1 14.5 103 0.073 1.5KE11A, G 1.0Te7.A, G 9.4 5 10.5 11 11.6 1 15.6 96 0.075 1.5KE13A, G 1.0E77.A, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE13A, G 1.0E77.A, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE13A, G 1.0Te7.A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.066 1.5KE18A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE2A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE3A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE3A, G 1.0Te7.A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.086 1.5KE3A, G 1.0Te7.A, G 15.3 5 27.7 27.7 24.4 1.0 0.096 1.5KE3A, G 1.0Te7.A, G 15.3 5 27.7 27.7 24.4 1.0 0.096 1.5KE3A, G 1.0Te7.A, G 15.3 5 25.7 27.7 24.4 1.0 0.096 1.5KE3A, G 1.0Te7.A, G 15.3 5 25.7 27.7 24.4 1.0 0.0			V _{RWM}			Breakdov	vn Voltage	V _C @ I _{PP} (Note 7)			
Device		· · · · · · · · · · · · · · · · · · ·		I _R @ V _{RWM}	V _{BR} (Note 6) (Volts)		@ I _T	V _C	I _{PP}	ΘV_{BR}	
1.5KE7.5A, G 1N626BA, G 7.02 200 7.13 7.5 7.88 10 11.3 132 0.061 1.5KE8.A, G 1N626BA, G 7.02 200 7.79 8.2 8.61 10 12.1 12.4 0.065 1.5KE9.A, G 1N626BA, G 7.02 200 7.79 8.2 8.61 10 12.1 12.4 0.065 1.5KE10A, G 1N627DA, G 7.78 50 8.65 9.1 9.55 1 13.4 112 0.066 1.5KE10A, G 1N627DA, G 7.78 50 8.65 9.1 9.55 1 13.4 112 0.068 1.5KE11A, G 1N627BA, G 9.4 5 10.5 11 11.6 1 15.6 96 0.075 1.5KE11A, G 1N627BA, G 10.2 5 11.4 12 12.6 1 16.7 90 0.078 1.5KE13A, G 1N627BA, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE13A, G 1N627BA, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE13A, G 1N627BA, G 11.8 5 15.8 1 12.4 13 13.7 1 18.2 82 0.081 1.5KE13A, G 1N627BA, G 11.3 5 15.8 1 12.2 77 0.084 1.5KE13A, G 1N627BA, G 15.3 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE13A, G 1N627BA, G 15.3 5 17.1 18 18.8 18.9 1 22.5 59.5 0.088 1.5KE20A, G 1N627BA, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE23A, G 1N627BA, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE2A, G 1N627BA, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE2A, G 1N628BA, G 23.1 5 25.7 27 28.4 1 33.2 45 0.094 1.5KE27A, G 1N628BA, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE3A, G 1N628BA, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE3A, G 1N628BA, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE3A, G 1N628BA, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE3A, G 1N628BA, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE3A, G 1N628BA, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE3A, G 1N628BA, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE5A, G 1N628BA, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE5A, G 1N628BA, G 36.8 5 5 37.1 39 41 1 9.2 16.3 0.101 1.5KE5A, G 1N628BA, G 36.8 5 5 37.1 39 41 1 10.3 14.6 0.105 1.5KE5A, G 1N628BA, G 36.8 5 5 37.1 39 41 1 10.3 14.6 0.105 1.5KE5A, G 1N628BA, G 36.8 5 5 37.1 39 41 1 10.3 14.6 0.105 1.5KE5A, G 1N628BA, G 36.8 5 5 37.1 39 41 1 10.3 14.6 0.105 1.5KE5A, G 1N628BA, G 36.8 5 5 35.5 5 35.5 5 36.5 5 38.8 1 77 7 19.5 0.103 1.5KE5A, G 1N628BA, G 36.8 5 5 35.5 5 36.5 5 38.8 1 77 7 19.5 0.103 1.5KE5A, G 1N628BA, G 36.8 5 5 35.5 5 36.5 5 38.8 1 77 1 39.9 40 0.09 1.5KE5A, G 1N628BA, G 36.8 5 5 36.5 5 36.5 5 3	Device [†]		(Volts)	(μA)	Min	Nom	Max	(mA)	(Volts)	(A)	(%/°C)
1.5KE19.A, G 1N6269A, G 7.02 200 7.79 8.2 8.61 10 12.1 124 0.065 1.5KE91.A, G 1N6270A, G 7.78 50 8.65 9.1 9.55 1 13.4 112 0.068 1.5KE91.A, G 1N6270A, G 7.78 50 8.65 9.1 10 10.5 1 13.4 112 0.068 1.5KE91.A, G 1N6270A, G 9.4 5 10.5 11 11.6 1 15.6 96 0.075 1.5KE12.A, G 1N6270A, G 10.2 5 11.4 12 12.6 1 16.7 90 0.078 1.5KE12.A, G 1N6270A, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE13.A, G 1N6270A, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE13.A, G 1N6270A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE13.A, G 1N6270A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE13.A, G 1N6270A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE20A, G 1N6270A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE20A, G 1N6270A, G 12.8 5 20.9 22 23.1 1 30.6 49 0.092 1.5KE20A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6280A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE30A, G 1N6280A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE30A, G 1N6280A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE30A, G 1N6280A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE30A, G 1N6280A, G 35.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE30A, G 1N6280A, G 35.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE30A, G 1N6280A, G 35.8 5 50.9 62 65.1 1 85 17.7 19.5 0.103 1.5KE30A, G 1N6280A, G 35.8 5 5 39.5 65 88.8 1 77 19.5 0.103 1.5KE30A, G 1N6280A, G 35.8 5 5 39.5 65 88.8 1 77 19.5 0.103 1.5KE30A, G 1N6280A, G 35.8 5 5 39.5 66 87.1 1 137 11 0.106 1.5KE30A, G 1N6290A, G 55.1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1.5KE6.8A, G	1N6267A, G	5.8	1000	6.45	6.8	7.14	10	10.5	143	0.057
1.5KE9.1A, G	1.5KE7.5A, G	1N6268A, G	6.4	500	7.13	7.5	7.88	10	11.3	132	0.061
1.5KE10A, G	1.5KE8.2A, G	1N6269A, G	7.02	200	7.79	8.2	8.61	10	12.1	124	0.065
1.5KE11A, G 1N6272A, G 9.4 5 10.5 11 11.6 1 15.6 96 0.075 1.5KE12A, G 1N6273A, G 10.2 5 11.4 12 12.6 1 16.7 90 0.078 1.5KE13A, G 1N6275A, G 12.8 5 14.3 15 15.8 1 21.2 71 0.084 1.5KE16A, G 1N6276A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE18A, G 1N6278A, G 13.6 5 17.1 18 18.9 1 25.5 59.5 0.088 1.5KE2A, G 1N6278A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE2A, G 1N628A, G 20.5 5 22.8 24 25.2 1 33.2 45 0.094 1.5KE3A, G 1N628A, G 25.6 5 28.5 30 31.5 1	1.5KE9.1A, G	1N6270A, G	7.78	50	8.65	9.1	9.55	1	13.4	112	0.068
1.5KE12A, G	1.5KE10A, G	1N6271A, G	8.55	10	9.5	10	10.5	1	14.5	103	0.073
1.5KE13A, G 1N6274A, G 11.1 5 12.4 13 13.7 1 18.2 82 0.081 1.5KE15A, G 1N6275A, G 12.8 5 14.3 15 15.8 1 21.2 71 0.084 1.5KE16A, G 1N6276A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE18A, G 1N6277A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.088 1.5KE20A, G 1N6278A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE27A, G 1N628A, G 20.5 5 22.8 24 25.2 1 33.2 45 0.09 1.5KE3A, G 1N628A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE3A, G 1N628A, G 25.6 5 28.5 30 31.5 1	1.5KE11A, G	1N6272A, G	9.4	5	10.5	11	11.6	1	15.6	96	0.075
1.5KE15A, G 1.86275A, G 12.8 5 14.3 15 15.8 1 21.2 71 0.084 1.5KE16A, G 1.16276A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE2AA, G 1.16277A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.088 1.5KE2AA, G 1.16279A, G 18.8 5 20.9 22 23.1 1 30.6 49 0.092 1.5KE2AA, G 116280A, G 20.5 5 22.8 24 25.2 1 33.2 45 0.094 1.5KE2AA, G 116280A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE3AA, G 11628AA, G 28.2 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE3AA, G 11628AA, G 30.8 5 34.2 36 37.8	1.5KE12A, G	1N6273A, G	10.2	5	11.4	12	12.6	1	16.7	90	0.078
1.5KE16A, G 1N6276A, G 13.6 5 15.2 16 16.8 1 22.5 67 0.086 1.5KE2A, G 1N6277A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.088 1.5KE2A, G 1N6279A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE2A, G 1N628A, G 20.5 5 22.8 24 25.2 1 33.2 45 0.094 1.5KE2A, G 1N628A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE3A, G 1N628A, G 25.6 5 28.5 30 31.5 1 41.4 36 0.097 1.5KE3A, G 1N628A, G 30.8 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE3A, G 1N628A, G 30.8 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE3A, G 1N628A, G 33.3 5 <t< td=""><td>1.5KE13A, G</td><td>1N6274A, G</td><td>11.1</td><td>5</td><td>12.4</td><td>13</td><td>13.7</td><td>1</td><td>18.2</td><td>82</td><td>0.081</td></t<>	1.5KE13A, G	1N6274A, G	11.1	5	12.4	13	13.7	1	18.2	82	0.081
1.5KE18A, G 1N8277A, G 15.3 5 17.1 18 18.9 1 25.2 59.5 0.088 1.5KE2AA, G 1N6278A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE2AA, G 1N6279A, G 18.8 5 20.9 22 23.1 1 30.6 49 0.092 1.5KE2AA, G 1N628AA, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE3AA, G 1N628AA, G 25.6 5 28.5 30 31.5 1 41.4 36 0.097 1.5KE3AA, G 1N628AA, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE3AA, G 1N628AA, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE3AA, G 1N628AA, G 40.2 5 44.7 47 49.4 1	1.5KE15A, G	1N6275A, G	12.8	5	14.3	15	15.8	1	21.2	71	0.084
1.5KE20A, G 1N6278A, G 17.1 5 19 20 21 1 27.7 54 0.09 1.5KE22A, G 1N6280A, G 20.5 5 22.8 24 22.5 1 33.2 45 0.092 1.5KE27A, G 1N6281A, G 20.5 5 22.8 24 22.5 1 33.2 45 0.094 1.5KE30A, G 1N6281A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6283A, G 28.2 5 31.4 33 34.7 1 45.7 33 0.099 1.5KE33A, G 1N628A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE33A, G 1N628A, G 36.8 5 37.1 39 41 1 53.9 25.3 0.101 1.5KE3A, G 1N628A, G 36.8 5 40.9 43 45.2 1	1.5KE16A, G	1N6276A, G	13.6	5	15.2	16	16.8	1	22.5	67	0.086
1.5KE22A, G 1 N6279A, G 18.8 5 20.9 22 23.1 1 30.6 49 0.092 1.5KE24A, G 1N6280A, G 20.5 5 22.8 24 25.2 1 33.2 45 0.094 1.5KE30A, G 1N6281A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6283A, G 25.6 5 28.5 30 31.5 1 41.4 36 0.097 1.5KE30A, G 1N6285A, G 28.2 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE39A, G 1N6285A, G 30.8 5 34.1 39 41 1 53.9 28 0.1 1.5KE3A, G 1N6285A, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE3A, G 1N6285A, G 40.2 5 44.7 47 49.4 1	1.5KE18A, G	1N6277A, G	15.3	5	17.1	18	18.9	1	25.2	59.5	0.088
1.5KE24A, G 1N6280A, G 20.5 5 22.8 24 25.2 1 33.2 45 0.094 1.5KE27A, G 1N6281A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N628AA, G 28.2 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE39A, G 1N628AA, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE39A, G 1N628AA, G 33.3 5 37.1 39 41 1 53.9 28 0.1 1.5KE47A, G 1N628AA, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE51A, G 1N628BA, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1	1.5KE20A, G	1N6278A, G	17.1	5	19	20	21	1	27.7	54	0.09
1.5KE27A, G 1N6281A, G 23.1 5 25.7 27 28.4 1 37.5 40 0.096 1.5KE30A, G 1N6282A, G 25.6 5 28.5 30 31.5 1 41.4 36 0.097 1.5KE33A, G 1N628A, G 28.2 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE39A, G 1N6285A, G 33.3 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE47A, G 1N6286A, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE5A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE5A, G 1N628A, G 43.6 5 48.5 51 53.6 1 <td>1.5KE22A, G</td> <td>1N6279A, G</td> <td>18.8</td> <td>5</td> <td>20.9</td> <td>22</td> <td>23.1</td> <td>1</td> <td>30.6</td> <td>49</td> <td>0.092</td>	1.5KE22A, G	1N6279A, G	18.8	5	20.9	22	23.1	1	30.6	49	0.092
1.5KE30A, G 1N6282A, G 25.6 5 28.5 30 31.5 1 41.4 36 0.097 1.5KE33A, G 1N6283A, G 28.2 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE39A, G 1N6285A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE39A, G 1N6286A, G 36.8 5 40.9 43 45.2 1 53.9 28 0.1 1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE56A, G 1N6299A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE56A, G 1N6299A, G 58.1 5 64.6 68 71.4 1	1.5KE24A, G	1N6280A, G	20.5	5	22.8	24	25.2	1	33.2	45	0.094
1.5KE33A, G 1N6283A, G 28.2 5 31.4 33 34.7 1 45.7 33 0.098 1.5KE36A, G 1N6284A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE39A, G 1N6286A, G 33.3 5 37.1 39 41 1 53.9 28 0.1 1.5KE47A, G 1N6286A, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE51A, G 1N6289A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE62A, G 1N629A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE63A, G 1N629A, G 53 5 58.9 62 65.1 1	1.5KE27A, G	1N6281A, G	23.1	5	25.7	27	28.4	1	37.5	40	0.096
1.5KE36A, G 1N6284A, G 30.8 5 34.2 36 37.8 1 49.9 30 0.099 1.5KE39A, G 1N6285A, G 33.3 5 37.1 39 41 1 53.9 28 0.1 1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE51A, G 1N6289A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE62A, G 1N6290A, G 53 5 58.9 62 65.1 1 85 17.7 0.104 1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6295A, G 85.5 <td< td=""><td>1.5KE30A, G</td><td>1N6282A, G</td><td>25.6</td><td>5</td><td>28.5</td><td>30</td><td>31.5</td><td>1</td><td>41.4</td><td>36</td><td>0.097</td></td<>	1.5KE30A, G	1N6282A, G	25.6	5	28.5	30	31.5	1	41.4	36	0.097
1.5KE39A, G 1N6285A, G 33.3 5 37.1 39 41 1 53.9 28 0.1 1.5KE43A, G 1N6286A, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE51A, G 1N6289A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE62A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE68A, G 1N6291A, G 64.1 5 71.3 75 78.8 1 103 14.6 0.105 1.5KE75A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 </td <td>1.5KE33A, G</td> <td>1N6283A, G</td> <td></td> <td>5</td> <td>31.4</td> <td>33</td> <td>34.7</td> <td>1</td> <td>45.7</td> <td>33</td> <td>0.098</td>	1.5KE33A, G	1N6283A, G		5	31.4	33	34.7	1	45.7	33	0.098
1.5KE43A, G 1N6286A, G 36.8 5 40.9 43 45.2 1 59.3 25.3 0.101 1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE51A, G 1N6288A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE68A, G 1N6290A, G 53 5 58.9 62 65.1 1 85 17.7 0.104 1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE75A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 103 14.6 0.105 1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE10A, G 1N6296A, G 85.5	1.5KE36A, G	1N6284A, G	30.8	5	34.2	36	37.8	1	49.9	30	0.099
1.5KE47A, G 1N6287A, G 40.2 5 44.7 47 49.4 1 64.8 23.2 0.101 1.5KE51A, G 1N6288A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE62A, G 1N6290A, G 53 5 58.9 62 65.1 1 85 17.7 0.104 1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE75A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6295A, G 85.5 5 95 100 105 1 <td>1.5KE39A, G</td> <td>1N6285A, G</td> <td>33.3</td> <td></td> <td>37.1</td> <td>39</td> <td>41</td> <td>1</td> <td>53.9</td> <td>28</td> <td>0.1</td>	1.5KE39A, G	1N6285A, G	33.3		37.1	39	41	1	53.9	28	0.1
1.5KE51A, G 1N6288A, G 43.6 5 48.5 51 53.6 1 70.1 21.4 0.102 1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE62A, G 1N6291A, G 53 5 58.9 62 65.1 1 85 17.7 0.104 1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE75A, G 1N6292A, G 64.1 5 71.3 75 78.8 1 103 14.6 0.105 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6295A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1	1.5KE43A, G	1N6286A, G	36.8	5	40.9	43	45.2	1	59.3	25.3	0.101
1.5KE56A, G 1N6289A, G 47.8 5 53.2 56 58.8 1 77 19.5 0.103 1.5KE62A, G 1N6290A, G 53 5 58.9 62 65.1 1 85 17.7 0.104 1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE75A, G 1N6292A, G 64.1 5 71.3 75 78.8 1 103 14.6 0.105 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE120A, G 1N6296A, G 94 5 105 110 116 1	1.5KE47A, G	1N6287A, G	40.2	5	44.7	47	49.4	1	64.8	23.2	0.101
1.5KE62A, G 1N6290A, G 53 5 58.9 62 65.1 1 85 17.7 0.104 1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE75A, G 1N6292A, G 64.1 5 71.3 75 78.8 1 103 14.6 0.105 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE10A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE130A, G 1N6297A, G 102 5 114 120 126 1	1.5KE51A, G	1N6288A, G	43.6	5	48.5	51	<i>53.6</i>	1	70.1	21.4	0.102
1.5KE68A, G 1N6291A, G 58.1 5 64.6 68 71.4 1 92 16.3 0.104 1.5KE75A, G 1N6292A, G 64.1 5 71.3 75 78.8 1 103 14.6 0.105 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE10A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6300A, G 136 5 <td>1.5KE56A, G</td> <td>1N6289A, G</td> <td>47.8</td> <td></td> <td></td> <td>56</td> <td>58.8</td> <td>1</td> <td>77</td> <td>19.5</td> <td>0.103</td>	1.5KE56A, G	1N6289A, G	47.8			56	58.8	1	77	19.5	0.103
1.5KE75A, G 1N6292A, G 64.1 5 71.3 75 78.8 1 103 14.6 0.105 1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE110A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 <td>1.5KE62A, G</td> <td>1N6290A, G</td> <td>53</td> <td>5</td> <td>58.9</td> <td>62</td> <td>65.1</td> <td>1</td> <td>85</td> <td>17.7</td> <td>0.104</td>	1.5KE62A, G	1N6290A, G	53	5	58.9	62	65.1	1	85	17.7	0.104
1.5KE82A, G 1N6293A, G 70.1 5 77.9 82 86.1 1 113 13.3 0.105 1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE110A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE180A, G 1N6301A, G 145 5	,	1N6291A, G	58.1	5	64.6	68	71.4	1	92	16.3	0.104
1.5KE91A, G 1N6294A, G 77.8 5 86.5 91 95.5 1 125 12 0.106 1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE110A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE180A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE200A, G 1N6303A, G 171 5	1.5KE75A, G	1N6292A, G	64.1		71.3	75	78.8	1	103	14.6	0.105
1.5KE100A, G 1N6295A, G 85.5 5 95 100 105 1 137 11 0.106 1.5KE110A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE200A, G 1N6303A, G 171 5	1.5KE82A, G	1N6293A, G									
1.5KE110A, G 1N6296A, G 94 5 105 110 116 1 152 9.9 0.107 1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209	1.5KE91A, G	1N6294A, G	77.8	5	86.5	91	95.5	1	125	12	0.106
1.5KE120A, G 1N6297A, G 102 5 114 120 126 1 165 9.1 0.107 1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE200A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE100A, G	1N6295A, G			95	100	105		137		0.106
1.5KE130A, G 1N6298A, G 111 5 124 130 137 1 179 8.4 0.107 1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE110A, G	,	94		105	110	116		152	9.9	0.107
1.5KE150A, G 1N6299A, G 128 5 143 150 158 1 207 7.2 0.108 1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE120A, G	1N6297A, G	102		114	120	126		165	9.1	0.107
1.5KE160A, G 1N6300A, G 136 5 152 160 168 1 219 6.8 0.108 1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE130A, G	1N6298A, G	111	5	124	130	137	1	179	8.4	0.107
1.5KE170A, G 1N6301A, G 145 5 162 170 179 1 234 6.4 0.108 1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE150A, G	1N6299A, G	128	5	143	150	158	1	207	7.2	0.108
1.5KE180A, G 1N6302A, G* 154 5 171 180 189 1 246 6.1 0.108 1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE160A, G	1N6300A, G	136	5	152	160	168	1	219	6.8	0.108
1.5KE200A, G 1N6303A, G 171 5 190 200 210 1 274 5.5 0.108 1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE170A, G	1N6301A, G	145		162	170	179		234	6.4	0.108
1.5KE220A, G 185 5 209 220 231 1 328 4.6 0.109	1.5KE180A, G	1N6302A, G*	154	5	171	180	189	1	246	6.1	0.108
	1.5KE200A, G	1N6303A, G	171	5	190	200	210	1	274	5.5	0.108
1.5KE250A, G 214 5 237 250 263 1 344 5 0.109	1.5KE220A, G		185	5	209	220	231	1	328	4.6	0.109
<u> </u>	1.5KE250A, G		214	5	237	250	263	1	344	5	0.109

Devices listed in **bold**, **italic** are ON Semiconductor Preferred devices. **Preferred** devices are recommended choices for future use and best overall value.

^{3. 1/2} sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.

^{4.} Indicates JEDEC registered data

Indicates JEDEC registered data
 A transient suppressor is normally selected according to the maximum working peak reverse voltage (V_{RWM}), which should be equal to or greater than the dc or continuous peak operating voltage level.
 V_{BR} measured at pulse test current I_T at an ambient temperature of 25°C
 Surge current waveform per Figure 5 and derate per Figures 1 and 2.
 †The "G" suffix indicates Pb-Free package available.

^{*}Not Available in the 1500/Tape & Reel

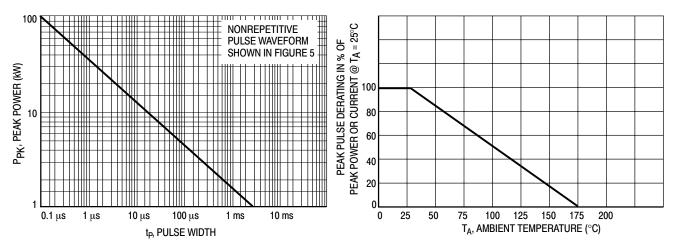


Figure 1. Pulse Rating Curve

Figure 2. Pulse Derating Curve

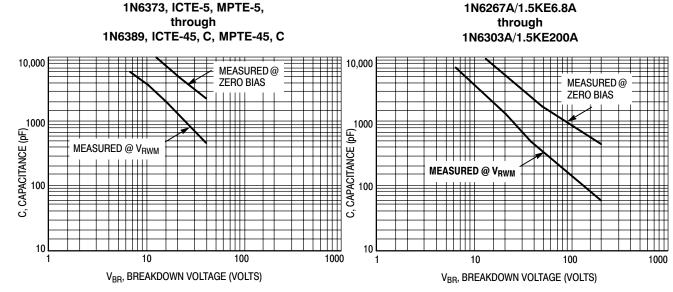


Figure 3. Capacitance versus Breakdown Voltage

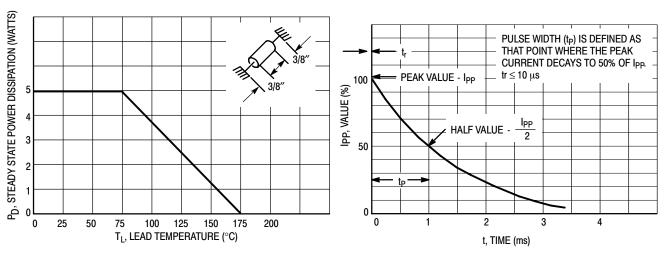


Figure 4. Steady State Power Derating

Figure 5. Pulse Waveform

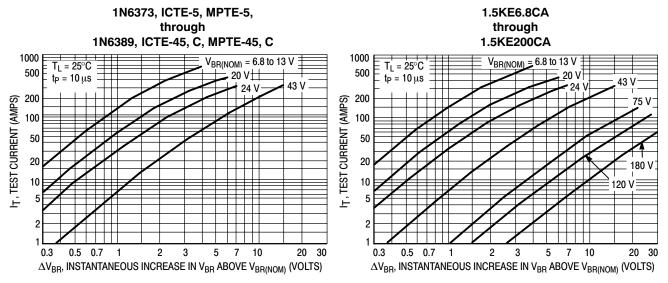


Figure 6. Dynamic Impedance

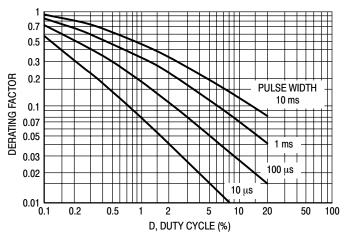


Figure 7. Typical Derating Factor for Duty Cycle

APPLICATION NOTES

RESPONSE TIME

In most applications, the transient suppressor device is placed in parallel with the equipment or component to be protected. In this situation, there is a time delay associated with the capacitance of the device and an overshoot condition associated with the inductance of the device and the inductance of the connection method. The capacitance effect is of minor importance in the parallel protection scheme because it only produces a time delay in the transition from the operating voltage to the clamp voltage as shown in Figure 8.

The inductive effects in the device are due to actual turn-on time (time required for the device to go from zero current to full current) and lead inductance. This inductive effect produces an overshoot in the voltage across the equipment or component being protected as shown in Figure 9. Minimizing this overshoot is very important in the

application, since the main purpose for adding a transient suppressor is to clamp voltage spikes. These devices have excellent response time, typically in the picosecond range and negligible inductance. However, external inductive effects could produce unacceptable overshoot. Proper circuit layout, minimum lead lengths and placing the suppressor device as close as possible to the equipment or components to be protected will minimize this overshoot.

Some input impedance represented by Z_{in} is essential to prevent overstress of the protection device. This impedance should be as high as possible, without restricting the circuit operation.

DUTY CYCLE DERATING

The data of Figure 1 applies for non-repetitive conditions and at a lead temperature of 25°C. If the duty cycle increases, the peak power must be reduced as indicated by the curves of Figure 7. Average power must be derated as the lead or

ambient temperature rises above 25°C. The average power derating curve normally given on data sheets may be normalized and used for this purpose.

At first glance the derating curves of Figure 7 appear to be in error as the 10 ms pulse has a higher derating factor than

the $10~\mu s$ pulse. However, when the derating factor for a given pulse of Figure 7 is multiplied by the peak power value of Figure 1 for the same pulse, the results follow the expected trend.

TYPICAL PROTECTION CIRCUIT

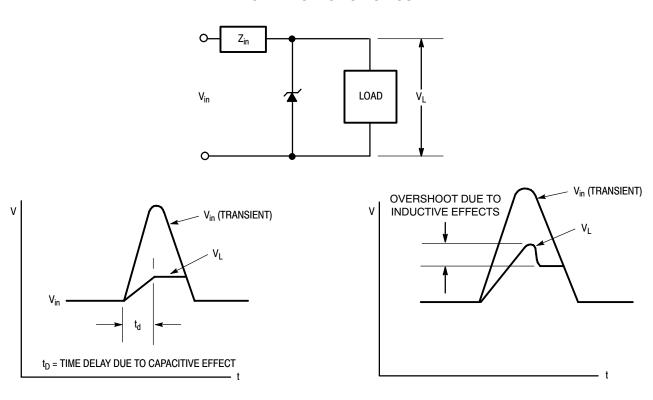


Figure 8. Figure 9.

UL RECOGNITION*

The entire series has *Underwriters Laboratory Recognition* for the classification of protectors (QVGV2) under the UL standard for safety 497B and File #E210057. Many competitors only have one or two devices recognized or have recognition in a non-protective category. Some competitors have no recognition at all. With the UL497B recognition, our parts successfully passed several tests including Strike Voltage Breakdown test, Endurance

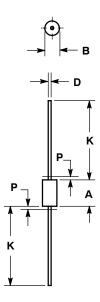
Conditioning, Temperature test, Dielectric Voltage-Withstand test, Discharge test and several more.

Whereas, some competitors have only passed a flammability test for the package material, we have been recognized for much more to be included in their Protector category.

*Applies to 1.5KE6.8A thru 1.5KE250A

OUTLINE DIMENSIONS

MOSORB CASE 41A-04 ISSUE D



NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI
 YAA FM 1000
- Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
- LEAD FINISH AND DIAMETER UNCONTROLLED IN DIMENSION P.
- 041A-01 THRU 041A-03 OBSOLETE, NEW STANDARD 041A-04.

	INC	HES	MILLIMETERS			
DIM	MIN MAX		MIN	MAX		
Α	0.335	0.374	8.50	9.50		
В	0.189	0.209	4.80	5.30		
D	0.038	0.042	0.96	1.06		
K	1.000		25.40			
P		0.050		1 27		

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