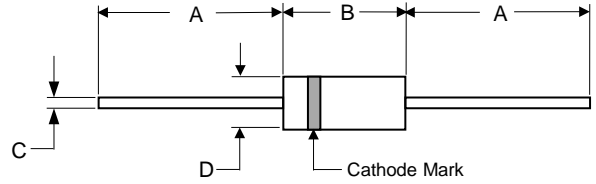


Features

- * Glass passivated junction
- * 1500W peak pulse power capability on 10/1000µs waveform, repetition rate (duty cycle): 0.05%
- * Excellent clamping capability
- * Low incremental surge resistance
- * Very fast response time



RoHS
COMPLIANT



DO-201AE				
DIM.	INCHES		MM	
	MIN	MAX	MIN	MAX
A	1.000	---	25.400	---
B	0.283	0.374	7.200	9.500
C	0.037	0.042	0.950	1.070
D	0.189	0.217	4.800	5.500

Mechanical Data

- * Case: Molded plastic body over passivated junction
- * Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- * High temperature soldering guaranteed: 265°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3 kg) tension
- * Polarity: For unidirectional types the color band denotes the cathode, which is positive with respect to the anode under normal TVS operation
- * Mounting Position: Any
- * Flammability: Epoxy is rated UL 94V-0

Maximum Ratings and Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Peak power dissipation with a 10/1000µs waveform ⁽¹⁾ (Fig. 1)	PPPM	1500	W
Peak pulse current with a 10/1000µs waveform ⁽¹⁾	IPPM	See Next Table	A
Steady state power dissipation at T _L = 75°C, lead lengths 0.375" (9.5mm) ⁽²⁾	PM(AV)	6.5	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only ⁽³⁾	IFSM	200	A
Maximum instantaneous forward voltage at 100A for unidirectional only ⁽⁴⁾	V _F	3.5/5.0	V
Typical thermal resistance junction-to-lead	R _{θJL}	20	°C/W
Typical thermal resistance junction-to-ambient	R _{θJA}	75	°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	°C

Notes:

- (1) Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2
- (2) Mounted on copper pad area of 1.6 x 1.6" (40 x 40mm) per Fig. 5
- (3) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum
- (4) V_F = 3.5V for 1.5KE220(A) & below; V_F = 5.0V for 1.5KE250(A) & above



1.5KE Series

Transient Voltage Suppressors

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number		Breakdown Voltage at I _T ⁽¹⁾		Test Current I _T (mA)	Stand-off Voltage V _{WM} (V)	Maximum Reverse Leakage at V _{WM} I _D ⁽³⁾ (μA)	Maximum Peak Pulse Current I _{PPM} ⁽²⁾ (A)	Maximum Clamping Voltage at I _{PPM} V _C (V)	Maximum Temp. Coefficient of V _(BR) (% / °C)
		Min	Max						
Uni	Bi								
1.5KE6.8	1.5KE6.8C	6.12	7.48	10	5.5	1000	139	10.8	0.057
1.5KE6.8A	1.5KE6.8CA	6.45	7.14	10	5.8	1000	143	10.5	0.057
1.5KE7.5	1.5KE7.5C	6.75	8.25	10	6.05	500	128	11.7	0.061
1.5KE7.5A	1.5KE7.5CA	7.13	7.88	10	6.4	500	133	11.3	0.061
1.5KE8.2	1.5KE8.2C	7.38	9.02	10	6.63	200	120	12.5	0.065
1.5KE8.2A	1.5KE8.2CA	7.79	8.61	10	7.02	200	124	12.1	0.065
1.5KE9.1	1.5KE9.1C	8.19	10	1	7.37	50	109	13.8	0.068
1.5KE9.1A	1.5KE9.1CA	8.65	9.55	1	7.78	50	112	13.4	0.068
1.5KE10	1.5KE10C	9	11	1	8.1	10	100	15	0.073
1.5KE10A	1.5KE10CA	9.5	10.5	1	8.55	10	103	14.5	0.073
1.5KE11	1.5KE11C	9.9	12.1	1	8.92	5	92.6	16.2	0.075
1.5KE11A	1.5KE11CA	10.5	11.6	1	9.4	5	96.2	15.6	0.075
1.5KE12	1.5KE12C	10.8	13.2	1	9.72	5	86.7	17.3	0.076
1.5KE12A	1.5KE12CA	11.4	12.6	1	10.2	5	89.8	16.7	0.078
1.5KE13	1.5KE13C	11.7	14.3	1	10.5	5	78.9	19	0.081
1.5KE13A	1.5KE13CA	12.4	13.7	1	11.1	5	82.4	18.2	0.081
1.5KE15	1.5KE15C	13.5	16.5	1	12.1	1	68.2	22	0.084
1.5KE15A	1.5KE15CA	14.3	15.8	1	12.8	1	70.8	21.2	0.084
1.5KE16	1.5KE16C	14.4	17.6	1	12.9	1	63.8	23.5	0.086
1.5KE16A	1.5KE16CA	15.2	16.8	1	13.6	1	66.7	22.5	0.086
1.5KE18	1.5KE18C	16.2	19.8	1	14.5	1	56.6	26.5	0.088
1.5KE18A	1.5KE18CA	17.1	18.9	1	15.3	1	59.5	25.2	0.089
1.5KE20	1.5KE20C	18	22	1	16.2	1	51.5	29.1	0.09
1.5KE20A	1.5KE20CA	19	21	1	17.1	1	54.2	27.7	0.09
1.5KE22	1.5KE22C	19.8	24.2	1	17.8	1	47	31.9	0.092
1.5KE22A	1.5KE22CA	20.9	23.1	1	18.8	1	49	30.6	0.092
1.5KE24	1.5KE24C	21.6	26.4	1	19.4	1	43.2	34.7	0.094
1.5KE24A	1.5KE24CA	22.8	25.2	1	20.5	1	45.2	33.2	0.094
1.5KE27	1.5KE27C	24.3	29.7	1	21.8	1	38.4	39.1	0.096
1.5KE27A	1.5KE27CA	25.7	28.4	1	23.1	1	40	37.5	0.096
1.5KE30	1.5KE30C	27	33	1	24.3	1	34.5	43.5	0.097
1.5KE30A	1.5KE30CA	28.5	31.5	1	25.6	1	36.2	41.4	0.097
1.5KE33	1.5KE33C	29.7	36.3	1	26.8	1	31.4	47.7	0.098
1.5KE33A	1.5KE33CA	31.4	34.7	1	28.2	1	32.8	45.7	0.098
1.5KE36	1.5KE36C	32.4	39.6	1	29.1	1	28.8	52	0.099
1.5KE36A	1.5KE36CA	34.2	37.8	1	30.8	1	30.1	49.9	0.099
1.5KE39	1.5KE39C	35.1	42.9	1	31.6	1	26.6	56.4	0.1
1.5KE39A	1.5KE39CA	37.1	41	1	33.3	1	27.8	53.9	0.1
1.5KE43	1.5KE43C	38.7	47.3	1	34.8	1	24.2	61.9	0.101
1.5KE43A	1.5KE43CA	40.9	45.2	1	36.8	1	25.3	59.3	0.101
1.5KE47	1.5KE47C	42.3	51.7	1	38.1	1	22.1	67.8	0.101
1.5KE47A	1.5KE47CA	44.7	49.4	1	40.2	1	23.1	64.8	0.101
1.5KE51	1.5KE51C	45.9	56.1	1	41.3	1	20.4	73.5	0.102
1.5KE51A	1.5KE51CA	48.5	53.6	1	43.6	1	21.4	70.1	0.102
1.5KE56	1.5KE56C	50.4	61.8	1	45.4	1	18.6	80.5	0.103
1.5KE56A	1.5KE56CA	53.2	58.8	1	47.8	1	19.5	77	0.103
1.5KE62	1.5KE62C	55.8	68.2	1	50.2	1	16.9	89	0.104
1.5KE62A	1.5KE62CA	58.9	65.1	1	53	1	17.6	85	0.104
1.5KE68	1.5KE68C	61.2	74.8	1	55.1	1	15.3	98	0.104
1.5KE68A	1.5KE68CA	64.6	71.4	1	58.1	1	16.3	92	0.104
1.5KE75	1.5KE75C	67.5	82.5	1	60.7	1	13.9	109	0.105
1.5KE75A	1.5KE75CA	71.3	78.8	1	64.1	1	14.6	104	0.105



1.5KE Series

Transient Voltage Suppressors

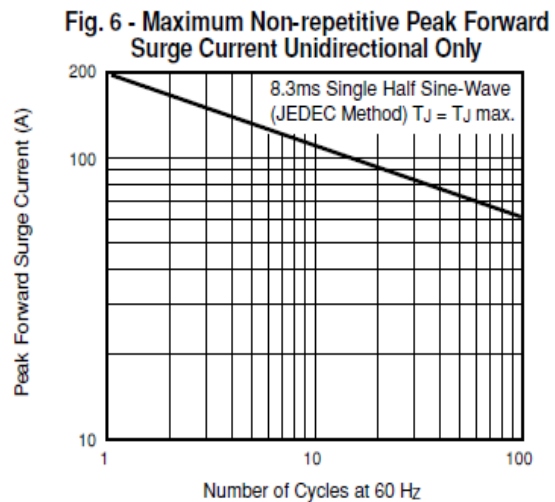
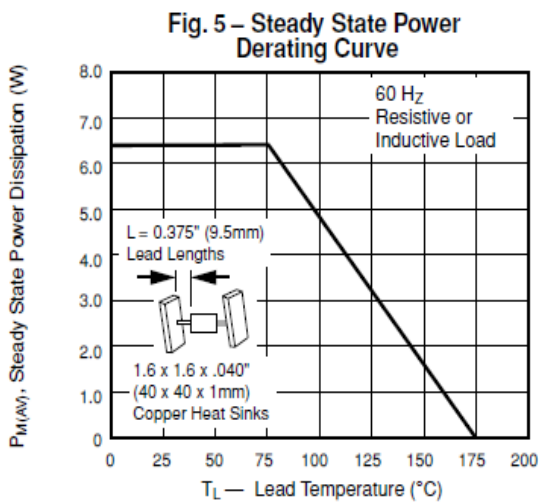
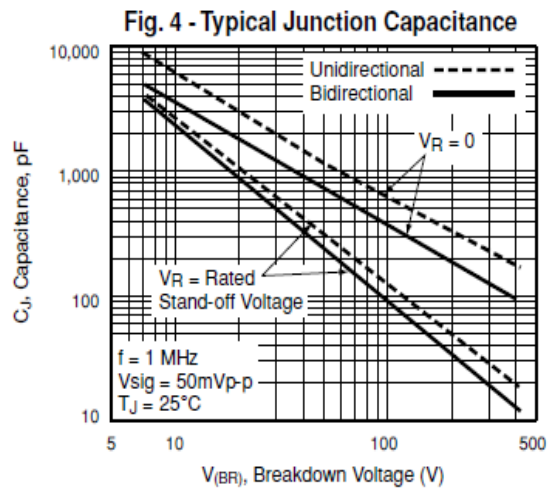
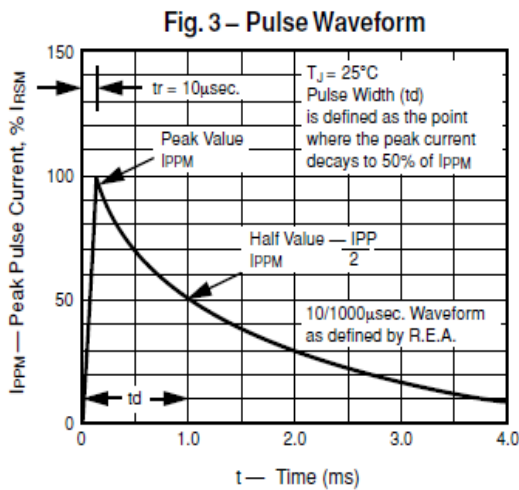
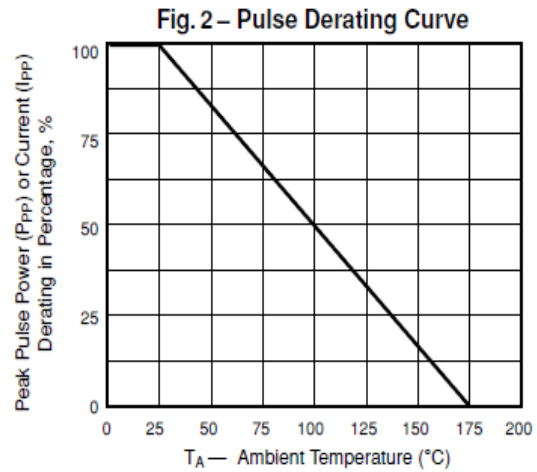
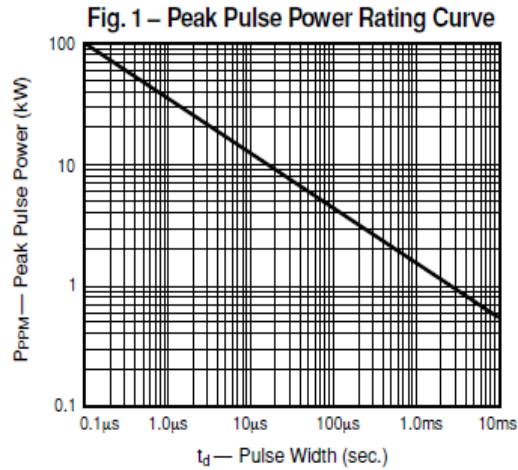
Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number		Breakdown Voltage at I _T ⁽¹⁾ V _(BR) (V)		Test Current I _T (mA)	Stand-off Voltage V _{WM} (V)	Maximum Reverse Leakage at V _{WM} I _D ⁽³⁾ μA	Maximum Peak Pulse Current I _{PPM} ⁽²⁾ (A)	Maximum Clamping Voltage at I _{PPM} V _c (V)	Maximum Temp. Coefficient of V _(BR) (% / °C)
		Min	Max						
1.5KE82	1.5KE82C	73.8	90.2	1	66.4	1	12.7	118	0.105
1.5KE82A	1.5KE82CA	77.9	86.1	1	70.1	1	13.3	113	0.105
1.5KE91	1.5KE91C	81.9	100	1	73.7	1	11.5	131	0.106
1.5KE91A	1.5KE91CA	86.5	95.5	1	77.8	1	12	125	0.106
1.5KE100	1.5KE100C	90	110	1	81	1	10.4	144	0.106
1.5KE100A	1.5KE100CA	95	105	1	85.5	1	10.9	137	0.106
1.5KE110	1.5KE110C	99	121	1	89.2	1	9.5	158	0.107
1.5KE 110A	1.5KE 110CA	105	116	1	94	1	9.9	152	0.107
1.5KE120	1.5KE120C	108	132	1	97.2	1	8.7	173	0.107
1.5KE120A	1.5KE120CA	114	126	1	102	1	9.1	165	0.107
1.5KE130	1.5KE130C	117	143	1	105	1	8	187	0.107
1.5KE130A	1.5KE130CA	124	137	1	111	1	8.4	179	0.107
1.5KE150	1.5KE150C	136	165	1	121	1	7	215	0.108
1.5KE150A	1.5KE150CA	143	158	1	128	1	7.2	207	0.106
1.5KE160	1.5KE160C	144	176	1	130	1	6.5	230	0.106
1.5KE160A	1.5KE160CA	152	168	1	136	1	6.8	219	0.108
1.5KE170	1.5KE170C	153	187	1	138	1	6.1	244	0.108
1.5KE170A	1.5KE170CA	162	179	1	145	1	6.4	234	0.108
1.5KE180	1.5KE180C	162	198	1	146	1	5.8	258	0.108
1.5KE180A	1.5KE180CA	171	189	1	154	1	6.1	246	0.108
1.5KE200	1.5KE200C	180	220	1	162	1	5.2	287	0.108
1.5KE200A	1.5KE200CA	190	210	1	171	1	5.5	274	0.108
1.5KE220	1.5KE220C	198	242	1	175	1	4.4	344	0.108
1.5KE220A	1.5KE220CA	209	231	1	185	1	4.6	328	0.108
1.5KE250	1.5KE250C	225	275	1	202	1	4.2	360	0.11
1.5KE250A	1.5KE250CA	237	263	1	214	1	4.4	344	0.11
1.5KE300	1.5KE300C	270	330	1	243	1	3.5	430	0.11
1.5KE300A	1.5KE300CA	285	315	1	256	1	3.6	414	0.11
1.5KE350	1.5KE350C	315	385	1	284	1	3	504	0.11
1.5KE350A	1.5KE350CA	333	368	1	300	1	3.1	482	0.11
1.5KE400	1.5KE400C	360	440	1	324	1	2.6	574	0.11
1.5KE400A	1.5KE400CA	380	420	1	342	1	2.7	548	0.11
1.5KE440	1.5KE440C	396	484	1	356	1	2.4	631	0.11
1.5KE440A	1.5KE440CA	418	462	1	376	1	2.5	602	0.11

Notes:

- (1) Pulse test: t_p ≤ 50ms
- (2) Surge current waveform per Fig. 3 and derate per Fig. 2
- (3) For bidirectional types with V_R 10 volts and less the I_D limit is doubled

Ratings and Characteristic Curves



Ratings and Characteristic Curves

Fig. 7 – Incremental Clamping Voltage Curve (Unidirectional)

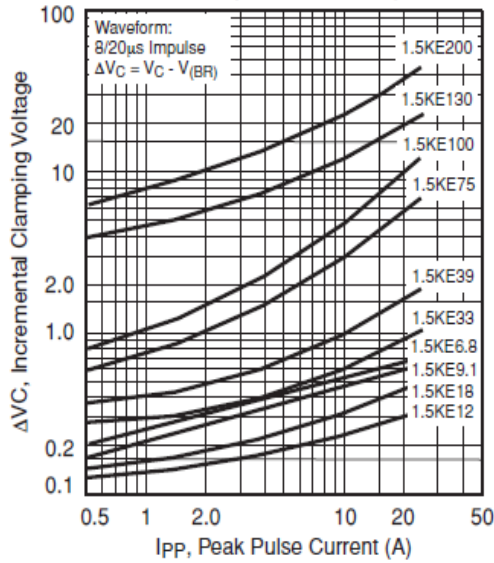


Fig. 8 – Incremental Clamping Voltage Curve (Unidirectional)

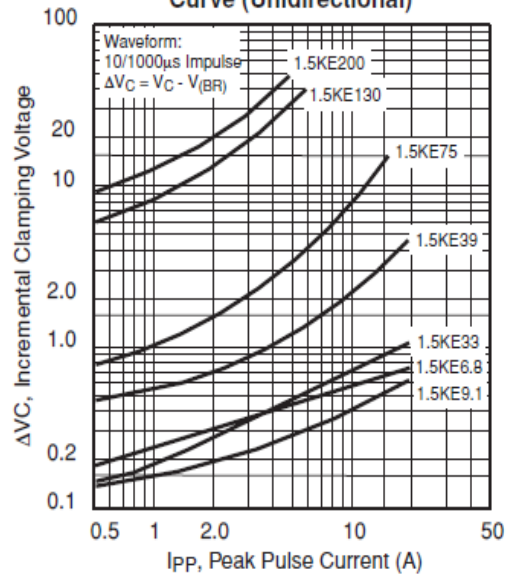


Fig. 7 – Incremental Clamping Voltage Curve (Bidirectional)

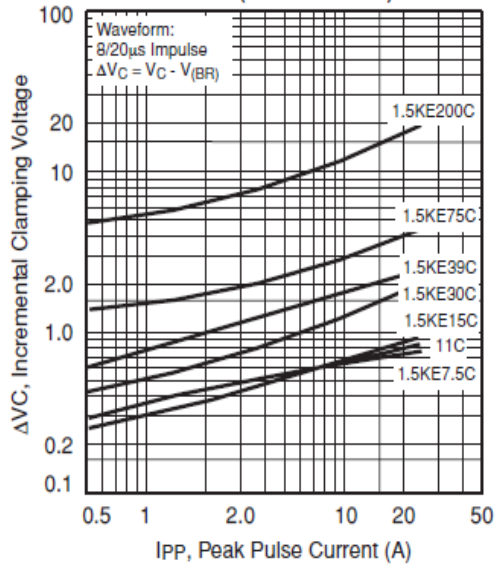
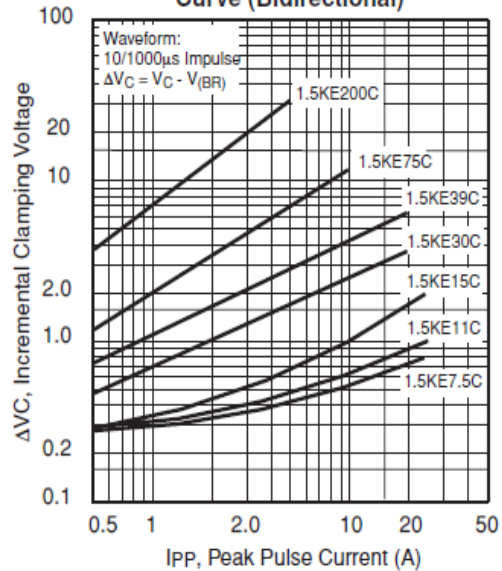


Fig. 10 – Incremental Clamping Voltage Curve (Bidirectional)



Ratings and Characteristic Curves

Fig. 11 – Instantaneous Forward Voltage Characteristics Curve

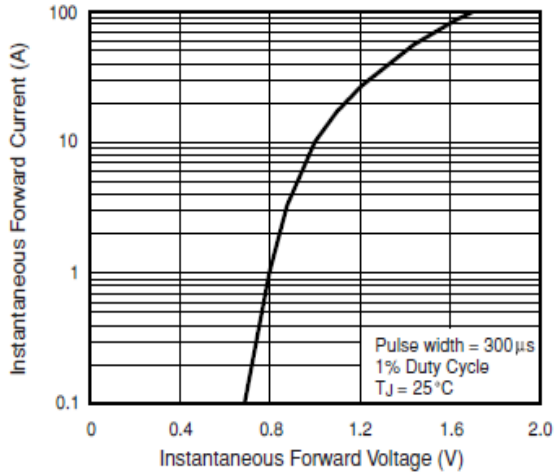


Fig. 12 – Typical Transient Thermal Impedance

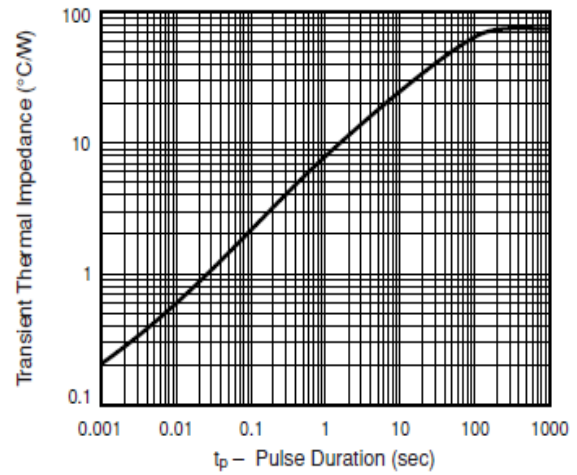
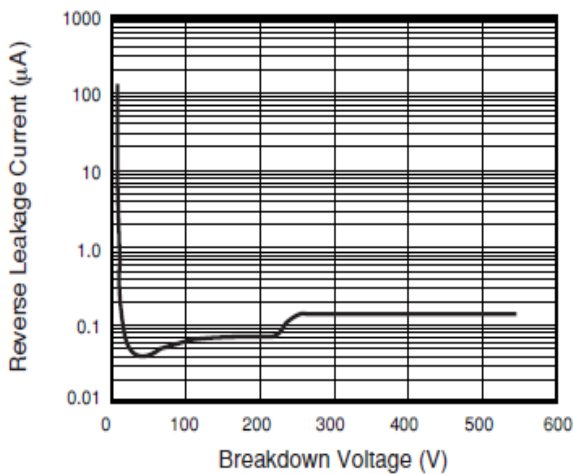


Fig. 13 – Typical Reverse Leakage Characteristics





1.5KE Series

Transient Voltage Suppressors

Ordering Information

Part No.	Package	Packing Code	Packing
1.5KE Series	DO-201AE	AXD	1250pcs/Ammo

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