FEATURES

- Low incremental surge resistance.
- Excellent clamping capability.
- Color band denoted cathode except bidirectional.
- Plastic package has under writers laboratory flammability 94V-0.
- 30000W peak pulse power capability at 10/1000μs waveform.
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260℃.
- Terminal: solder plated, solderable per J-STD-002.
- Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).

R-6/P-600

Bi-directional

Uni-directional

Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at 10/1000μs waveform	P_{PPM}	30000	W
Peak pulse current of at 10/1000μs waveform	I_{PPM}	See Table	A
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	8.0	W
Peak forward surge current, 8.3ms single half sine-wave for unidirectional only	I_{FSM}	400	A
Typical thermal resistance junction to lead	$R_{\theta JL}$	8	℃/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	40	
Operating junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number		Marking Code		V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①	I_R@V_R
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	V	Min(V)	Max (V)	mA	V	A	Max(μA)
30KPA28A	30KPA28CA	30KPA28A	30KPA28CA	28.0	31.28	34.57	50	50.0	606.0	5000
30KPA30A	30KPA30CA	30KPA30A	30KPA30CA	30.0	33.51	37.04	50	55.2	548.9	5000
30KPA33A	30KPA33CA	30KPA33A	30KPA33CA	33.0	36.90	40.78	50	58.5	517.9	5000
30KPA36A	30KPA36CA	30KPA36A	30KPA36CA	36.0	40.20	44.43	50	61.8	490.3	5000
30KPA39A	30KPA39CA	30KPA39A	30KPA39CA	39.0	43.60	48.19	20	67.2	450.9	2000
30KPA42A	30KPA42CA	30KPA42A	30KPA42CA	42.0	46.90	51.84	10	72.0	420.8	1000
30KPA43A	30KPA43CA	30KPA43A	30KPA43CA	43.0	48.00	53.05	10	73.0	415.1	1000
30KPA45A	30KPA45CA	30KPA45A	30KPA45CA	45.0	50.30	55.59	5	77.4	391.5	250
30KPA48A	30KPA48CA	30KPA48A	30KPA48CA	48.0	53.60	59.24	5	81.6	371.3	150
30KPA51A	30KPA51CA	30KPA51A	30KPA51CA	51.0	57.00	63.00	5	86.4	350.7	50
30KPA54A	30KPA54CA	30KPA54A	30KPA54CA	54.0	60.30	66.65	5	91.4	331.5	20
30KPA58A	30KPA58CA	30KPA58A	30KPA58CA	58.0	64.80	71.62	5	92.4	327.9	20
30KPA60A	30KPA60CA	30KPA60A	30KPA60CA	60.0	67.00	74.05	5	102.0	297.1	15
30KPA64A	30KPA64CA	30KPA64A	30KPA64CA	64.0	71.50	79.03	5	104.0	291.3	10
30KPA66A	30KPA66CA	30KPA66A	30KPA66CA	66.0	73.70	81.46	5	107.0	283.2	2
30KPA70A	30KPA70CA	30KPA70A	30KPA70CA	70.0	78.20	86.43	5	109.0	278.0	2
30KPA71A	30KPA71CA	30KPA71A	30KPA71CA	71.0	79.30	87.65	5	111.5	271.7	2
30KPA72A	30KPA72CA	30KPA72A	30KPA72CA	72.0	80.40	88.86	5	114.0	265.8	2
30KPA75A	30KPA75CA	30KPA75A	30KPA75CA	75.0	83.80	92.62	5	119.4	253.8	2
30KPA78A	30KPA78CA	30KPA78A	30KPA78CA	78.0	87.10	96.27	5	129.0	234.9	2
30KPA84A	30KPA84CA	30KPA84A	30KPA84CA	84.0	93.80	103.67	5	139.2	217.7	2
30KPA90A	30KPA90CA	30KPA90A	30KPA90CA	90.0	100.50	111.08	5	146.4	207.0	2
30KPA96A	30KPA96CA	30KPA96A	30KPA96CA	96.0	107.20	118.48	5	156.0	194.2	2
30KPA102A	30KPA102CA	30KPA102A	30KPA102CA	102.0	113.90	125.89	5	165.6	183.0	2

Part Number		Marking Code		V_R	$V_{BR}@I_T$		I_T	$V_C@I_{PP}$	I_{PP} ①	$I_R@V_R$
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	V	Min(V)	Max (V)	mA	V	A	Max(μA)
30KPA108A	30KPA108CA	30KPA108A	30KPA108CA	108.0	120.60	133.29	5	175.2	172.9	2
30KPA120A	30KPA120CA	30KPA120A	30KPA120CA	120.0	134.00	148.11	5	194.4	155.9	2
30KPA132A	30KPA132CA	30KPA132A	30KPA132CA	132.0	147.40	162.92	5	213.0	142.3	2
30KPA144A	30KPA144CA	30KPA144A	30KPA144CA	144.0	160.80	177.73	5	223.2	135.8	2
30KPA156A	30KPA156CA	30KPA156A	30KPA156CA	156.0	174.30	192.65	5	245.0	123.7	2
30KPA160A	30KPA160CA	30KPA160A	30KPA160CA	160.0	178.70	197.51	5	252.6	120.0	2
30KPA168A	30KPA168CA	30KPA168A	30KPA168CA	168.0	187.70	207.46	5	272.4	111.2	2
30KPA170A	30KPA170CA	30KPA170A	30KPA170CA	170.0	189.90	209.89	5	275.0	110.2	2
30KPA180A	30KPA180CA	30KPA180A	30KPA180CA	180.0	201.10	222.27	5	290.4	104.3	2
30KPA198A	30KPA198CA	30KPA198A	30KPA198CA	198.0	221.20	244.48	5	319.8	94.7	2
30KPA216A	30KPA216CA	30KPA216A	30KPA216CA	216.0	241.30	266.70	5	348.6	86.9	2
30KPA240A	30KPA240CA	30KPA240A	30KPA240CA	240.0	268.10	296.32	5	387.0	78.3	2
30KPA258A	30KPA258CA	30KPA258A	30KPA258CA	258.0	288.20	318.54	5	416.4	72.8	2
30KPA260A	30KPA260CA	30KPA260A	30KPA260CA	260.0	290.40	320.97	5	416.0	72.8	2
30KPA270A	30KPA270CA	30KPA270A	30KPA270CA	270.0	301.60	333.35	5	436.2	69.5	2
30KPA280A	30KPA280CA	30KPA280A	30KPA280CA	280.0	312.80	345.73	5	464.0	65.3	2
30KPA288A	30KPA288CA	30KPA288A	30KPA288CA	288.0	321.70	355.56	5	469.9	64.5	2
30KPA300A	30KPA300CA	30KPA300A	30KPA300CA	300.0	334.0	367.4	5	484.0	62.0	2
30KPA320A	30KPA320CA	30KPA320A	30KPA320CA	320.0	357.0	391.4	5	530.0	57.2	2
30KPA350A	30KPA350CA	30KPA350A	30KPA350CA	350.0	391.0	428.1	5	567.0	53.4	2
30KPA360A	30KPA360CA	30KPA360A	30KPA360CA	360.0	402.1	440.3	5	640.0	47.3	2

Note:
①.Surge waveform:10/1000μs
V_R: Stand-off voltage -- Maximum voltage that can be applied
V_{BR}: Breakdown voltage
V_C: Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP}
I_R: Reverse leakage current

CHARACTERISTIC CURVES

Figure 1: V- I curve characteristics (Uni-directional)

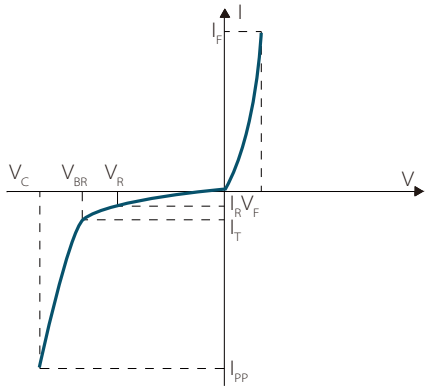


Figure 2: V- I curve characteristics (Bi-directional)

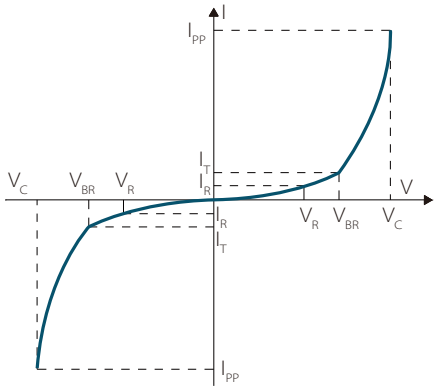


Figure 3: Pulse waveform

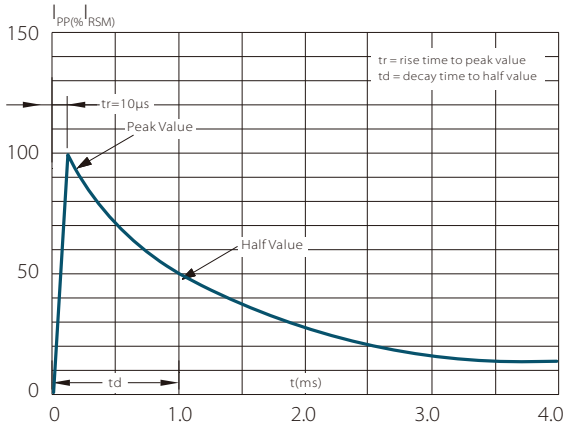


Figure 4: Power derating curve

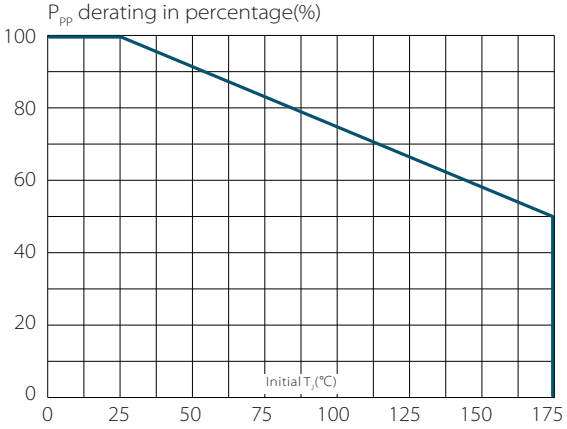


Figure 5: Peak pulse power dissipation vs. pulse width

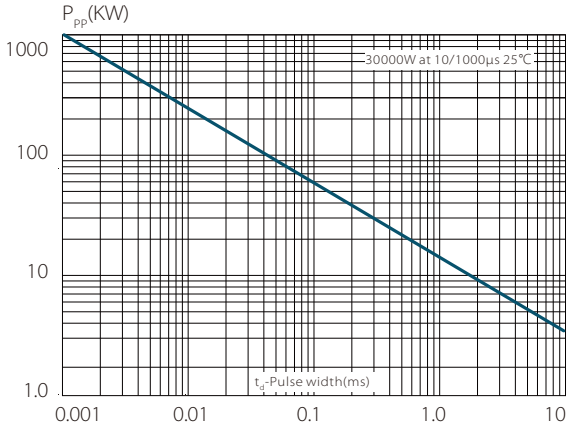


Figure 6: Typical Junction Capacittance

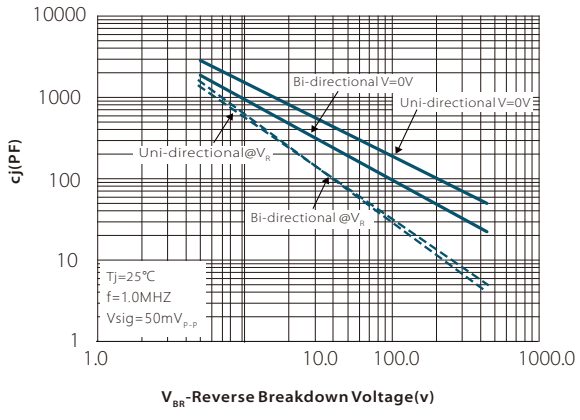
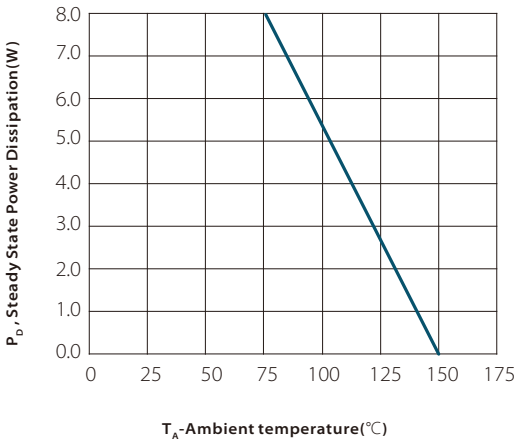
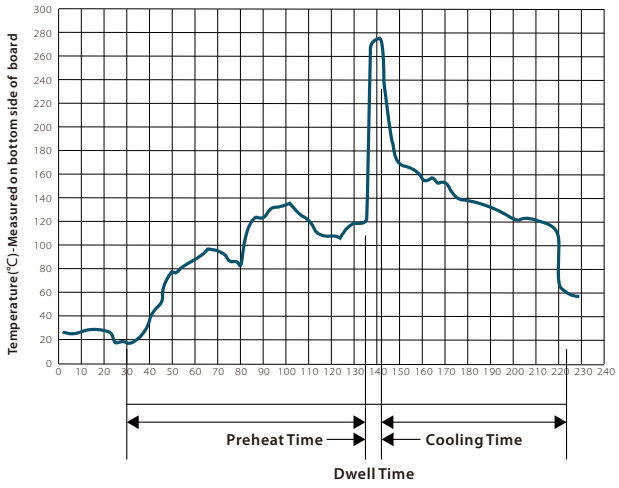


Figure 7: Steady State Power Dissipaton Deraiting Curve

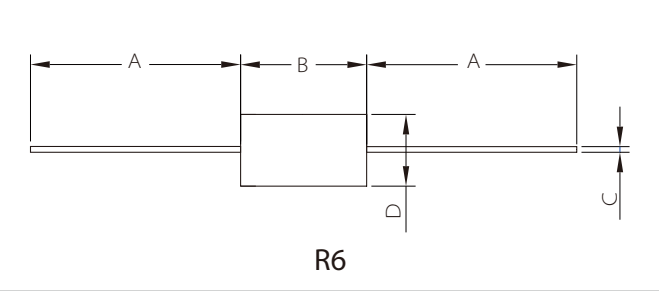


WAVE SOLDERING



Wave Parameter		Lead–free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time(min to max)	60 – 180 secs
Solder pot Temperature		280°C Max
Solder Dwell Time		2-5 seconds

P600 PACKAGE INFORMATION



R6

Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	8.60	9.40	0.339	0.370
C	1.20	1.40	0.047	0.055
D	8.60	9.10	0.339	0.358

ORDERING INFORMATION

Part Number	Component Package	Per BOX	Description
30KPAxxA/CA	R6/P600	300pcs	Box
30KPAxxA/CA	R6/P600	800pcs	Reel

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