FEATURES

- Low incremental surge resistance.
- Excellent clamping capability.
- Typical IR less than 2μA above 30V.
- Color band denoted cathode except bidirectional.
- Plastic package has under writers laboratory flammability 94V-0.
- 15000W 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
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +175	℃
Peak pulse power dissipation at 10/1000μs waveform	P_{PP}	15000	W
Steady state power dissipation at T_L=75℃	P_D	8.0	
Peak forward surge current, 8.3ms single half sine-wave for unidirectional only	I_{FSM}	400	A
Typical thermal resistance junction to lead	$R_{\theta JL}$	8.0	℃/W
Typical thermal resistance, junction to ambient	$R_{\theta JA}$	40	

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number		Marking Code		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP} ①
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	V	Max(μA)	Min(V)	Max (V)	mA	V	A
15KPA17A	15KPA17CA	15KPA17A	15KPA17CA	17.0	5000	18.90	20.90	50	29.3	515.4
15KPA18A	15KPA18CA	15KPA18A	15KPA18CA	18.0	5000	20.00	22.10	50	30.9	488.7
15KPA20A	15KPA20CA	15KPA20A	15KPA20CA	20.0	1500	22.20	24.50	20	34.3	440.2
15KPA22A	15KPA22CA	15KPA22A	15KPA22CA	22.0	500	24.40	26.90	10	37.1	407.0
15KPA24A	15KPA24CA	15KPA24A	15KPA24CA	24.0	150	26.70	29.50	5	40.7	371.0
15KPA26A	15KPA26CA	15KPA26A	15KPA26CA	26.0	50	28.90	31.90	5	44.0	343.2
15KPA28A	15KPA28CA	15KPA28A	15KPA28CA	28.0	25	31.10	34.40	5	47.5	317.9
15KPA30A	15KPA30CA	15KPA30A	15KPA30CA	30.0	15	33.30	36.80	5	50.7	297.8
15KPA33A	15KPA33CA	15KPA33A	15KPA33CA	33.0	2	36.70	40.60	5	54.7	276.1
15KPA36A	15KPA36CA	15KPA36A	15KPA36CA	36.0	2	40.00	44.20	5	59.8	252.5
15KPA40A	15KPA40CA	15KPA40A	15KPA40CA	40.0	2	44.40	49.10	5	65.8	229.5
15KPA43A	15KPA43CA	15KPA43A	15KPA43CA	43.0	2	47.80	52.80	5	69.8	216.3
15KPA45A	15KPA45CA	15KPA45A	15KPA45CA	45.0	2	50.00	55.30	5	72.8	207.4
15KPA48A	15KPA48CA	15KPA48A	15KPA48CA	48.0	2	53.30	58.90	5	77.7	194.3
15KPA51A	15KPA51CA	15KPA51A	15KPA51CA	51.0	2	56.70	62.70	5	82.9	182.1
15KPA54A	15KPA54CA	15KPA54A	15KPA54CA	54.0	2	60.00	66.30	5	87.7	172.2
15KPA58A	15KPA58CA	15KPA58A	15KPA58CA	58.0	2	64.40	71.20	5	93.8	161.0
15KPA60A	15KPA60CA	15KPA60A	15KPA60CA	60.0	2	66.70	73.70	5	97.4	155.0
15KPA64A	15KPA64CA	15KPA64A	15KPA64CA	64.0	2	71.10	78.60	5	104.2	144.9
15KPA70A	15KPA70CA	15KPA70A	15KPA70CA	70.0	2	77.80	86.00	5	113.6	132.9
15KPA75A	15KPA75CA	15KPA75A	15KPA75CA	75.0	2	83.30	92.10	5	122.0	123.8
15KPA78A	15KPA78CA	15KPA78A	15KPA78CA	78.0	2	86.70	95.80	5	126.1	119.7
15KPA85A	15KPA85CA	15KPA85A	15KPA85CA	85.0	2	94.40	104.0	5	137.6	109.7
15KPA90A	15KPA90CA	15KPA90A	15KPA90CA	90.0	2	100.0	111.0	5	145.6	103.7

Part Number		Marking Code		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	V	Max(μA)	Min(V)	Max (V)	mA	V	A
15KPA100A	15KPA100CA	15KPA100A	15KPA100CA	100.0	2	111.0	123.0	5	161.3	93.6
15KPA110A	15KPA110CA	15KPA110A	15KPA110CA	110.0	2	122.0	135.0	5	178.6	84.5
15KPA120A	15KPA120CA	15KPA120A	15KPA120CA	120.0	2	133.0	147.0	5	192.3	78.5
15KPA130A	15KPA130CA	15KPA130A	15KPA130CA	130.0	2	144.0	159.0	5	208.3	72.5
15KPA150A	15KPA150CA	15KPA150A	15KPA150CA	150.0	2	167.0	185.0	5	241.9	62.4
15KPA160A	15KPA160CA	15KPA160A	15KPA160CA	160.0	2	178.0	197.0	5	258.6	58.4
15KPA170A	15KPA170CA	15KPA170A	15KPA170CA	170.0	2	189.0	209.0	5	272.7	55.4
15KPA180A	15KPA180CA	15KPA180A	15KPA180CA	180.0	2	201.0	222.0	5	288.5	52.3
15KPA200A	15KPA200CA	15KPA200A	15KPA200CA	200.0	2	224.0	247.0	5	319.1	47.3
15KPA220A	15KPA220CA	15KPA220A	15KPA220CA	220.0	2	246.0	272.0	5	352.5	42.8
15KPA240A	15KPA240CA	15KPA240A	15KPA240CA	240.0	2	268.0	292.0	5	384.6	39.3
15KPA260A	15KPA260CA	15KPA260A	15KPA260CA	260.0	2	289.0	317.0	5	416.7	36.2
15KPA280A	15KPA280CA	15KPA280A	15KPA280CA	280.0	2	311.0	341.0	5	454.5	33.2

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)

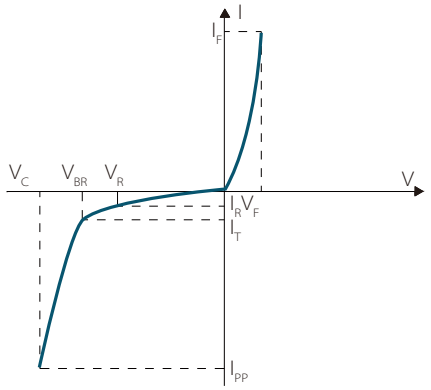


Figure 2: V- I curve characteristics (Bi-directional)

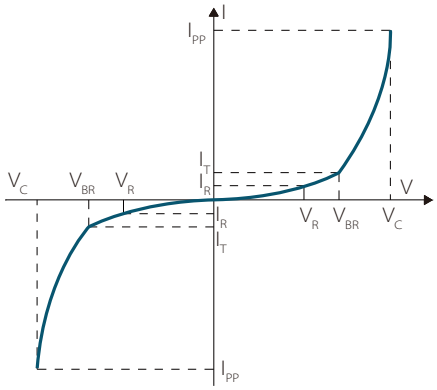


Figure 3: Pulse waveform

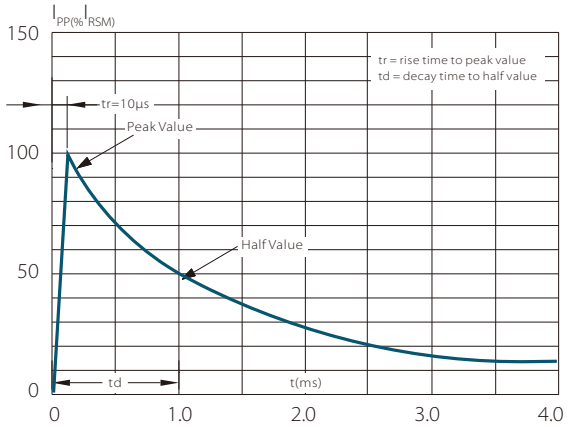


Figure 4: Power derating curve

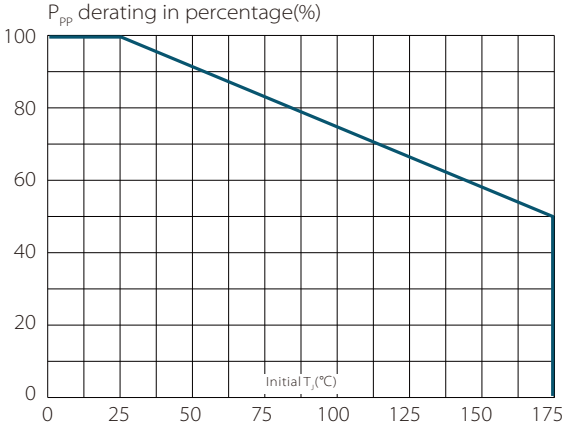


Figure 5: Peak pulse power dissipation vs. pulse width

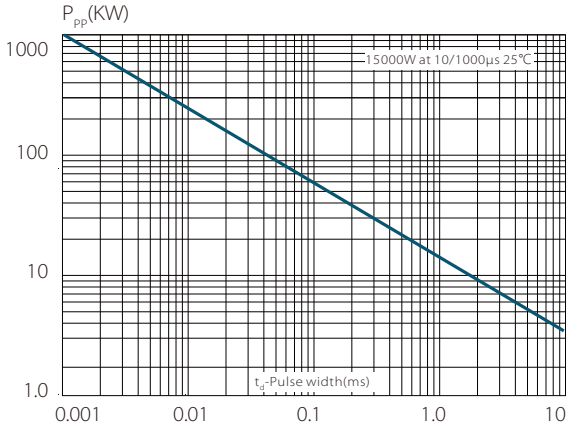


Figure 6: Typical Junction Capacittance

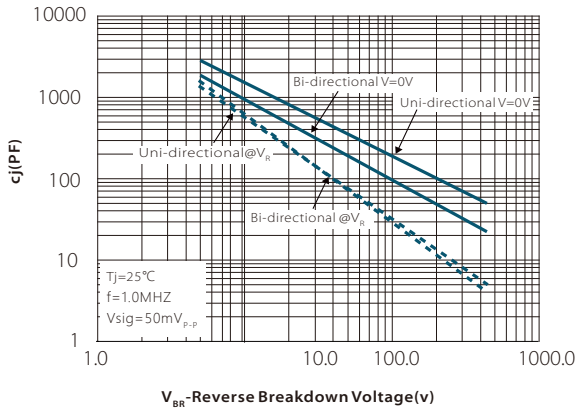
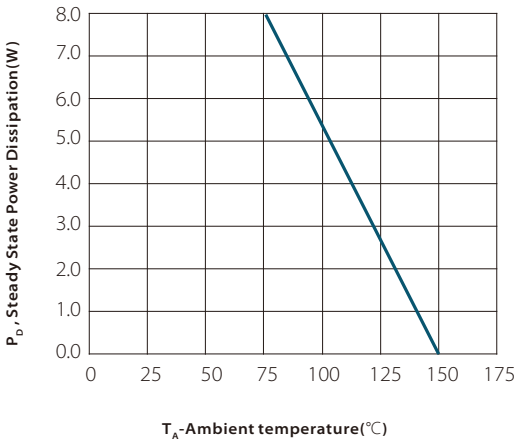
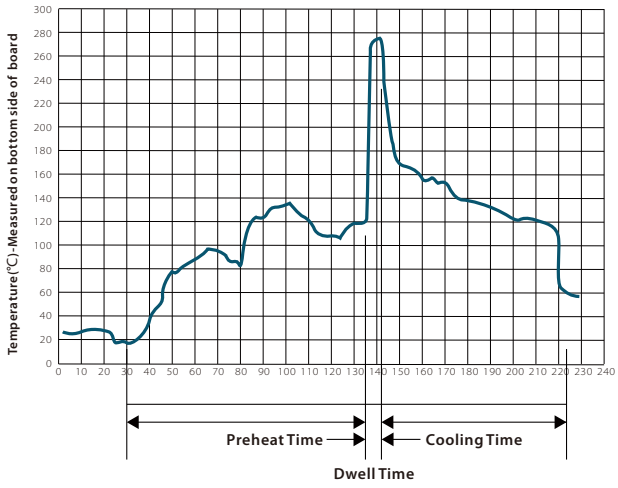


Figure 7: Steady State Power Dissipaton Deraiting Curve

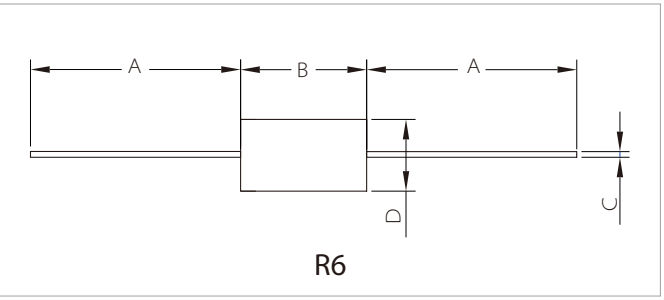


WAVE SOLDERING



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	Per Carton	Description
15KPAxxA/CA	R6/P600	300pcs	3000pcs	Box

To find your local partner within Semiwell's website : www.semiwell.com.cn