

Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



■ Features

1. Reliable low cost construction utilizing molded plastic technique
2. Both bi-directional and uni-directional devices are available
3. Fast response time
4. Excellent clamping capacity
5. 15000 W peak pulse power capability with a 10/1000 μ s waveform, repetition rate (duty cycle): 0.01%



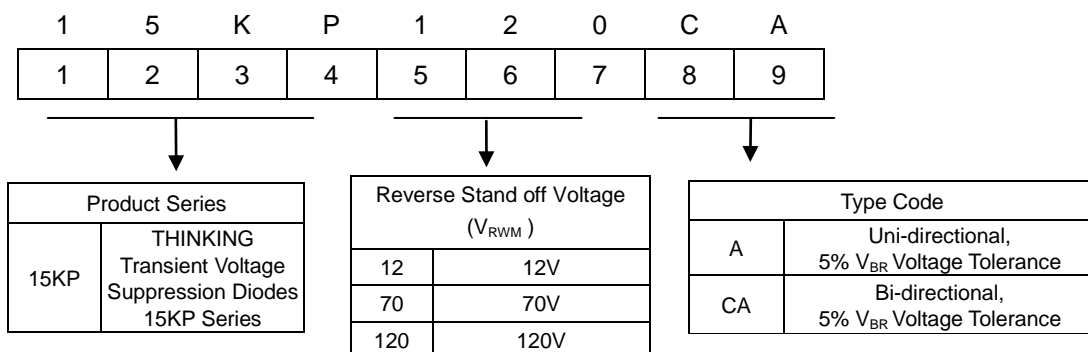
■ Recommended Applications

1. Telecommunication
2. Computer
3. Industrial device
4. Consumer electronic device

■ Mechanical Data

1. Package: P600
2. Terminal: Matte Tin-plated leads, solderable per MIL-STD-750, Method 2026.
3. Polarity: The band denotes cathode (Note: no polarity indicator for bi-directional devices)

■ Part Number Code



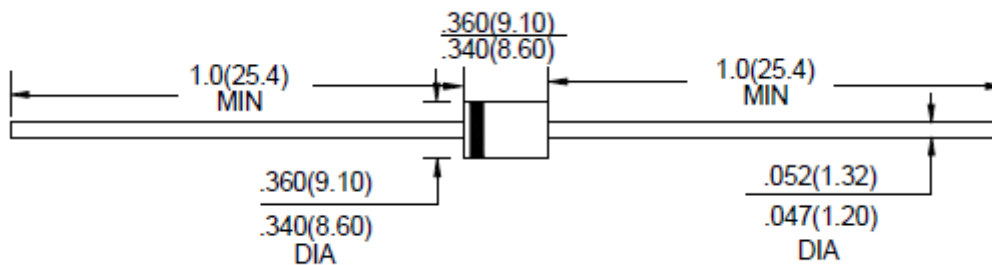
Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



■ Structures and Dimensions

P600



Unit: inch (millimeter)

■ Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at $T_A=25^{\circ}\text{C}$ by 10/1000 μs waveform.	P_{PPM}	15000	W
Peak pulse current of on 10/1000 μs waveform.	I_{PPM}	See Table	A
Peak forward surge current, 8.3ms single half sine wave on rated load.	I_{FSM}	400	A
Steady state power dissipation at $T_L=75^{\circ}\text{C}$	$P_{M(AV)}$	8.0	W
Operating junction and storage temperature range.	T_J, T_{STG}	-55~+175	$^{\circ}\text{C}$

Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



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

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage V _{BR} @ IT		Test Current	Maximum Clamping Voltage V _C @ I _{pp}	Maximum Peak Pulse Current	Maximum Reverse Leakage I _R @VRWM
		V _{RWM} (V)	Min(V)	Max(V)	IT(mA)	V _C (V)	I _{pp} (A)	I _R (μA)
15KP17A	15KP17CA	17	18.99	20.90	50	29.3	515.4	5000
15KP18A	15KP18CA	18	20.11	22.10	50	30.9	488.7	5000
15KP20A	15KP20CA	20	22.34	24.50	20	34.3	440.2	1500
15KP22A	15KP22CA	22	24.57	26.90	10	37.1	407	500
15KP24A	15KP24CA	24	26.81	29.50	5	40.7	371	150
15KP26A	15KP26CA	26	29.04	31.90	5	44	343.2	50
15KP28A	15KP28CA	28	31.28	34.40	5	47.5	317.9	25
15KP30A	15KP30CA	30	33.51	36.80	5	50.7	297.8	15
15KP33A	15KP33CA	33	36.9	40.60	5	54.7	276.1	2
15KP36A	15KP36CA	36	40.2	44.20	5	59.8	252.5	2
15KP40A	15KP40CA	40	44.7	49.10	5	65.8	229.5	2
15KP43A	15KP43CA	43	48	52.80	5	69.8	216.3	2
15KP45A	15KP45CA	45	50.3	55.30	5	72.8	207.4	2
15KP48A	15KP48CA	48	53.6	58.90	5	77.7	194.3	2
15KP51A	15KP51CA	51	57	62.70	5	82.9	192.1	2
15KP54A	15KP54CA	54	63.3	66.30	5	87.7	172.2	2
15KP58A	15KP58CA	58	64.8	71.20	5	93.8	161	2
15KP60A	15KP60CA	60	67	73.7	5	97.4	155	2
15KP64A	15KP64CA	64	71.5	78.6	5	104.2	144.9	2
15KP70A	15KP70CA	70	78.2	86.00	5	113.6	132.9	2
15KP75A	15KP75CA	75	83.8	92.10	5	122.0	123.8	2
15KP78A	15KP78CA	78	87.1	95.80	5	126.1	119.7	2
15KP85A	15KP85CA	85	94.9	104.00	5	137.6	109.7	2
15KP90A	15KP90CA	90	100.5	111.00	5	145.6	103.7	2
15KP100A	15KP100CA	100	111.7	123.00	5	161.3	93.6	2
15KP110A	15KP110CA	110	122.9	135.00	5	178.6	84.5	2
15KP120A	15KP120CA	120	134	147.00	5	192.3	78.5	2
15KP130A	15KP130CA	130	145.2	159.00	5	208.3	72.5	2
15KP150A	15KP150CA	150	167.6	185.00	5	241.9	62.4	2

Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



■ Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage V_{BR} @ IT		Test Current	Maximum Clamping Voltage V_C @ I_{pp}	Maximum Peak Pulse Current	Maximum Reverse Leakage I_R @VRWM
		V_{RWM} (V)	Min(V)	Max(V)	IT(mA)	V_C (V)	I_{pp} (A)	I_R (μ A)
15KP160A	15KP160CA	160	178.7	197.00	5	258.6	58.4	2
15KP170A	15KP170CA	170	189.9	209.00	5	272.7	55.4	2
15KP180A	15KP180CA	180	201.1	221.00	5	288.5	52.3	2
15KP200A	15KP200CA	200	223.4	246.00	5	319.1	47.3	2
15KP220A	15KP220CA	220	245.7	270.00	5	356.4	42.2	2
15KP240A	15KP240CA	240	268.1	295.00	5	384.5	39.3	2
15KP260A	15KP260CA	260	290.4	319.00	5	416.7	36.2	2
15KP280A	15KP280CA	280	312.8	344.00	5	454.5	33.2	2

Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



■ Rate and Characteristic Curve ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

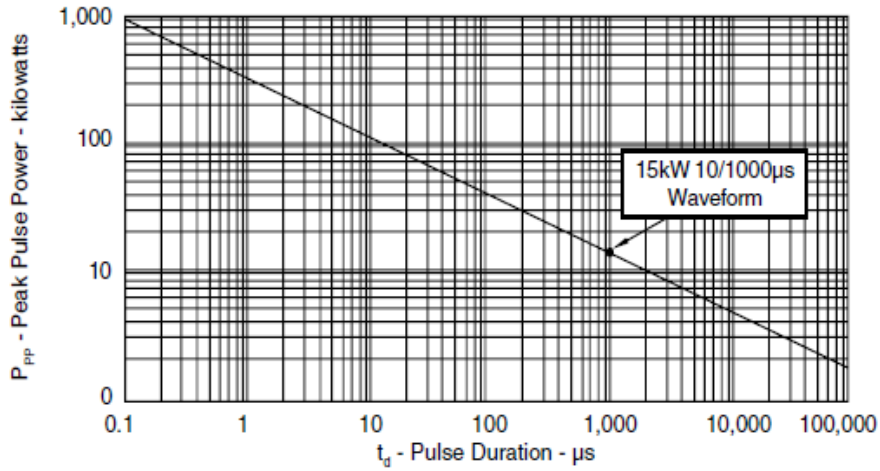


FIGURE 2
PULSE WAVE FORM

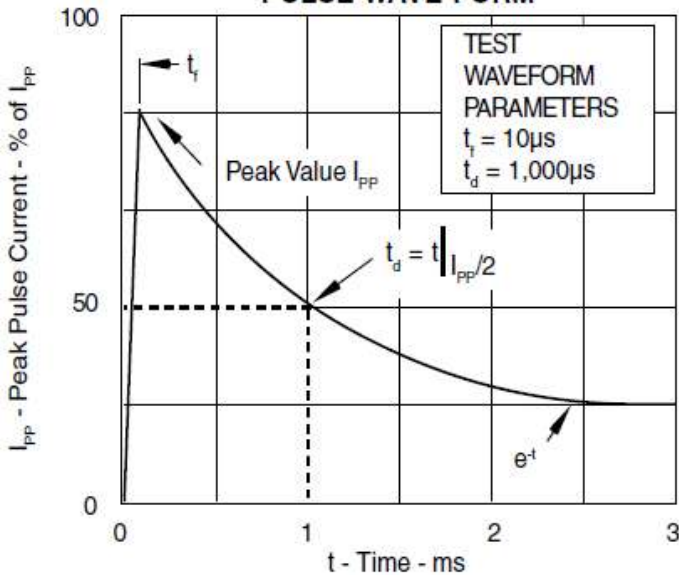
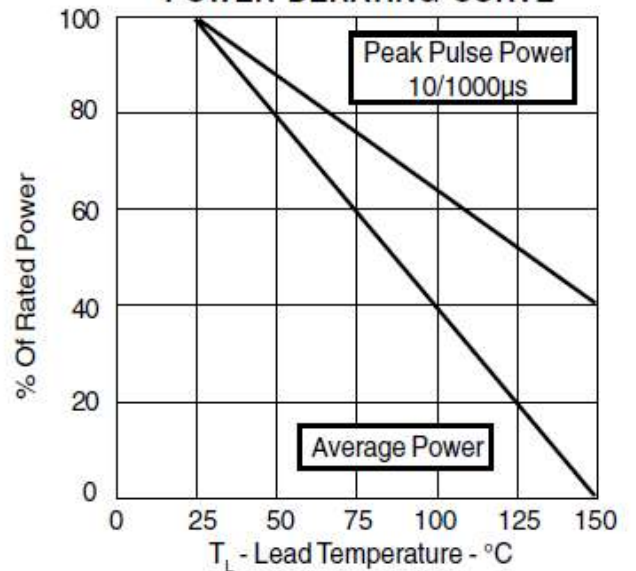


FIGURE 3
POWER DERATING CURVE

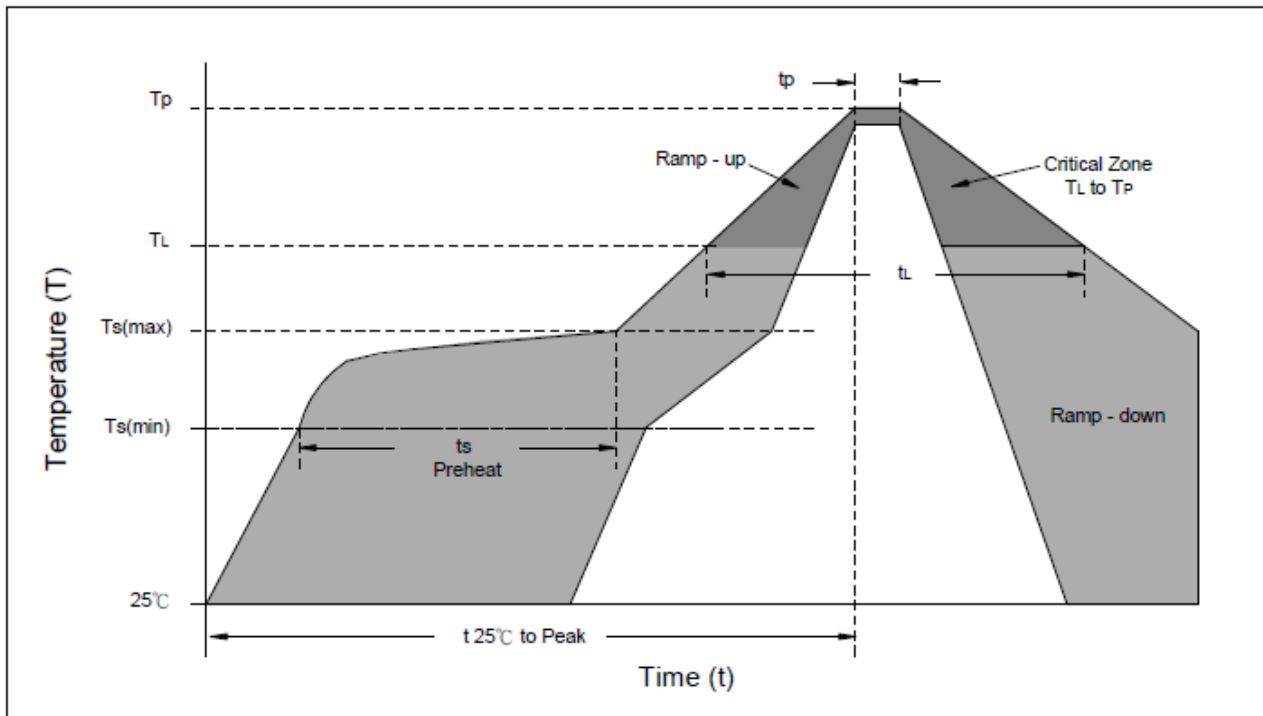


Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



■ Soldering Recommendation



Reflow Condition	Lead-free assembly
Preheat -Temperature Min(Ts min) -Temperature Min(Ts max) -Time (min to max) (ts)	150°C 200°C 60 – 180 seconds
Average ramp up rate -Temperature Liquidus (TL) to peak	3°C/second max
Ts(max) to TL -Ramp-up Rate	3°C/second max.
Reflow -Temperature Liquidus (TL) -Time (tL)	217°C 60 – 150 seconds
Peak Temperature (TP)	260°C
Time within 5°C of actual peak Temperature(TP)	20 – 40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to peak Temperature(TP)	8 minutes max.
Do not exceed	260°C

Transient Voltage Suppression Diodes: 15KP Series

Axial Leaded Type 15000 W



■ Quantity

Package Type	Reel Size inch	Reel Kpcs
P600	13	0.8

■ Warehouse Storage Conditions of product

- Storage Condition:
 1. Storage Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
 2. Relative Humidity: $\leq 75\% \text{RH}$
 3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.