

Vishay General Semiconductor

TRANSZORB® Transient Voltage Suppressors

FEATURES

- P600 glass passivated chip junction
- Available in unidirectional polarity only
- 5000 W peak pulse power capability with ^{COMPLIANT} a 10/1000 μs waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lightning on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive, and telecommunication.

MECHANICAL DATA

Case: P600, molded epoxy body over passivated junction Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS compliant, commercial grade Base P/NHE3_X - RoHS compliant, AEC-Q101 qualified (_X denotes revision code e.g. A, B,...)

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: color band denotes cathode end

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	LIMIT	UNIT			
Peak pulse power dissipation with a 10/1000 μ s waveform $^{(1)}$	P _{PPM}	5000	W			
Peak pulse current with a 10/1000 µs waveform ⁽¹⁾	I _{PPM}	See next table	А			
Power dissipation on infinite heatsink at $T_L = 75 \text{ °C}$ (fig. 5)	PD	8.0	W			
Peak forward surge current 8.3 ms single half sine-wave (fig. 5)	I _{FSM}	500	А			
Instantaneous forward voltage at 100 A ⁽²⁾	V _F	3.5	V			
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⁾ Measured 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum



PRIMARY CHARACTERISTICS				
8.5 V to 188 V				
9.4 V to 231 V				
5000 W				
8.0 W				
500 A				
175 °C				
Unidirectional				
P600				

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BEFACK_DEWIN TEST (N) TEST (N) STAND-OFF (N) MAX PRAK PLISE (N) PRAK PLISE (N) MAX </th <th colspan="4">ELECTRICAL CHARACTERISTICS (JEDEC REGISTERED DATA) (T_A = 25 °C unless otherwise noted)</th>	ELECTRICAL CHARACTERISTICS (JEDEC REGISTERED DATA) (T _A = 25 °C unless otherwise noted)								
Mix. MAX. Ch Is (HA) </th <th></th> <th>VOLT V_{BR} A</th> <th>ΓAGE Τ Ι_Τ ⁽¹⁾</th> <th></th> <th></th> <th>REVERSE LEAKAGE</th> <th>PEAK PULSE CURRENT</th> <th>CLAMPING VOLTAGE AT</th> <th>COEFFICIENT OF V_{BR}</th>		VOLT V _{BR} A	ΓAGE Τ Ι _Τ ⁽¹⁾			REVERSE LEAKAGE	PEAK PULSE CURRENT	CLAMPING VOLTAGE AT	COEFFICIENT OF V _{BR}
SKP9.0A 10.0 11.1 5.0 9.0 20 325 15.4 0.081 SKP10A 11.1 12.3 5.0 10.0 15 294 17.0 0.084 SKP1A 13.3 14.7 5.0 11.0 10 275 18.2 0.086 SKP1A 15.6 17.2 5.0 13.0 2.0 233 21.5 0.090 SKP1A 15.6 17.2 5.0 16.0 2.0 216 23.2 0.092 SKP1A 16.7 18.5 5.0 16.0 2.0 192 26.0 0.096 SKP1A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.097 SKP1A 20.0 22.1 5.0 20.0 2.0 154 32.4 0.098 SKP2A 22.2 24.5 5.0 20.0 2.0 114 35.5 0.100 SKP2A 28.9 31.9 5.0		MIN.	MAX.	(112)	(•)		(A)		(707 0)
SKP10A 11.1 12.3 5.0 10.0 15 2.94 17.0 0.084 SKP11A 12.2 13.5 5.0 11.0 10 275 18.2 0.086 SKP12A 13.3 14.7 5.0 12.0 5.0 233 21.5 0.090 SKP14A 15.6 17.2 5.0 14.0 2.0 233 21.5 0.090 SKP16A 17.7 18.5 5.0 15.0 2.0 233 21.6 0.094 SKP16A 17.8 19.7 5.0 16.0 2.0 181 27.6 0.094 SKP16A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.099 SKP2A 24.4 26.9 5.0 22.0 2.0 141 35.5 0.100 SKP2A 24.4 26.9 31.9 5.0 26.0 2.0 119 42.1 0.101 SKP2A 28.7 29.5 </td <td>5KP8.5A</td> <td>9.44</td> <td>10.4</td> <td>5.0</td> <td>8.5</td> <td>50</td> <td>347</td> <td>14.4</td> <td>0.078</td>	5KP8.5A	9.44	10.4	5.0	8.5	50	347	14.4	0.078
SKP11A 12.2 13.5 5.0 11.0 10 275 18.2 0.086 SKP12A 13.3 14.7 5.0 12.0 5.0 251 19.9 0.088 SKP13A 14.4 15.9 5.0 13.0 2.0 233 21.5 0.090 SKP15A 16.7 18.5 5.0 14.0 2.0 216 23.2 0.092 SKP15A 16.7 18.5 5.0 16.0 2.0 192 26.0 0.096 SKP17A 18.9 20.0 5.0 17.0 2.0 181 27.6 0.097 SKP18A 20.0 22.1 5.0 20.0 2.0 111 35.5 0.100 SKP2A 22.2 24.5 5.0 22.0 2.0 1129 38.9 0.101 SKP2A 28.9 31.9 5.0 24.0 2.0 110 45.4 0.102 SKP2A 28.9 31.9 5.0 </td <td>5KP9.0A</td> <td>10.0</td> <td>11.1</td> <td>5.0</td> <td>9.0</td> <td>20</td> <td>325</td> <td>15.4</td> <td>0.081</td>	5KP9.0A	10.0	11.1	5.0	9.0	20	325	15.4	0.081
SKP12A 13.3 14.7 5.0 12.0 5.0 251 19.9 0.088 SKP13A 14.4 15.9 5.0 13.0 2.0 233 21.5 0.090 SKP14A 15.6 17.2 5.0 14.0 2.0 233 21.5 0.092 SKP16A 16.7 18.5 5.0 15.0 2.0 2265 24.4 0.094 SKP16A 17.8 19.7 5.0 16.0 2.0 192 26.0 0.096 SKP12A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.097 SKP2AA 22.2 24.5 5.0 20.0 2.0 1141 35.5 0.100 SKP2AA 28.9 31.9 5.0 22.0 2.0 1141 35.5 0.101 SKP2AA 28.9 31.9 5.0 26.0 2.0 119 42.1 0.011 SKP2AA 28.9 31.3 <td< td=""><td>5KP10A</td><td>11.1</td><td>12.3</td><td>5.0</td><td>10.0</td><td>15</td><td>294</td><td>17.0</td><td>0.084</td></td<>	5KP10A	11.1	12.3	5.0	10.0	15	294	17.0	0.084
SKP13A 14.4 15.9 5.0 13.0 2.0 233 21.5 0.090 SKP14A 15.6 17.2 5.0 14.0 2.0 216 23.2 0.092 SKP15A 16.7 18.5 5.0 15.0 2.0 205 24.4 0.094 SKP15A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.096 SKP17A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.097 SKP2A 22.2 24.5 5.0 20.0 2.0 154 32.4 0.098 SKP2A 24.4 26.9 5.0 22.0 2.0 119 42.1 0.010 SKP2A 28.9 31.9 5.0 26.0 2.0 119 42.1 0.011 SKP2A 28.9 31.3 36.8 5.0 30.0 2.0 103 48.4 0.102 SKP3A 36.7 40.0 <td>5KP11A</td> <td>12.2</td> <td>13.5</td> <td>5.0</td> <td>11.0</td> <td>10</td> <td>275</td> <td>18.2</td> <td>0.086</td>	5KP11A	12.2	13.5	5.0	11.0	10	275	18.2	0.086
SKP14A 15.6 17.2 5.0 14.0 2.0 216 23.2 0.092 SKP15A 16.7 18.5 5.0 15.0 2.0 205 24.4 0.094 SKP16A 17.8 19.7 5.0 17.0 2.0 192 26.0 0.096 SKP17A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.097 SKP20A 22.2 24.5 5.0 20.0 2.0 154 32.4 0.099 SKP20A 22.2 24.5 5.0 20.0 2.0 141 35.5 0.100 SKP2AA 26.7 29.5 5.0 24.0 2.0 119 42.1 0.011 SKP2AA 28.9 31.9 5.0 28.0 2.0 103 48.4 0.102 SKP3AA 36.7 40.6 5.0 33.0 2.0 78.3 36.1 0.104 SKP3AA 40.0 44.0 2	5KP12A	13.3	14.7	5.0	12.0	5.0	251	19.9	0.088
SKP15A 16.7 18.5 5.0 15.0 2.0 205 24.4 0.094 SKP16A 17.8 19.7 5.0 16.0 2.0 192 26.0 0.096 SKP17A 18.9 20.0 5.0 17.0 2.0 181 27.6 0.097 SKP20A 22.2 24.5 5.0 20.0 2.0 171 29.2 0.098 SKP2AA 24.4 26.9 5.0 22.0 2.0 141 35.5 0.100 SKP2AA 26.7 29.5 5.0 24.0 2.0 119 42.1 0.101 SKP2AA 28.9 31.9 5.0 28.0 2.0 103 48.4 0.102 SKP3AA 33.3 36.8 5.0 33.0 2.0 93.8 53.3 0.104 SKP3AA 47.8 52.8 5.0 43.0 2.0 77.5 64.5 0.105 SKP4AA 47.8 52.8	5KP13A	14.4	15.9	5.0	13.0	2.0	233	21.5	0.090
5KP16A 17.8 19.7 5.0 16.0 2.0 192 28.0 0.096 5KP17A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.097 5KP18A 20.0 22.1 5.0 18.0 2.0 171 29.2 0.098 5KP20A 22.2 24.4 26.9 5.0 22.0 2.0 141 35.5 0.100 5KP2AA 28.9 31.9 5.0 22.0 2.0 141 35.5 0.101 5KP2AA 28.9 31.9 5.0 28.0 2.0 110 45.4 0.102 5KP3AA 36.7 40.6 5.0 33.0 2.0 103 48.4 0.103 5KP3AA 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP3AA 47.8 52.8 5.0 46.0 2.0 77.5 64.5 0.105 5KP4AA 47.8	5KP14A	15.6	17.2	5.0	14.0	2.0	216	23.2	0.092
5KP17A 18.9 20.9 5.0 17.0 2.0 181 27.6 0.097 5KP18A 20.0 22.1 5.0 18.0 2.0 171 29.2 0.098 5KP2AA 22.2 24.5 5.0 20.0 2.0 154 32.4 0.099 5KP2AA 26.7 29.5 5.0 22.0 2.0 141 35.5 0.100 5KP2AA 28.9 31.9 5.0 24.0 2.0 119 42.1 0.101 5KP2AA 38.3 38.8 5.0 28.0 2.0 110 45.4 0.102 5KP3AA 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP3AA 40.0 44.2 5.0 36.0 2.0 77.5 64.5 0.105 5KP4AA 44.4 49.1 5.0 44.0 2.0 68.8 72.7 0.106 5KP4SA 50.0 55.0 <td< td=""><td>5KP15A</td><td>16.7</td><td>18.5</td><td>5.0</td><td>15.0</td><td>2.0</td><td>205</td><td>24.4</td><td>0.094</td></td<>	5KP15A	16.7	18.5	5.0	15.0	2.0	205	24.4	0.094
5KP18A 20.0 22.1 5.0 18.0 2.0 171 29.2 0.098 5KP20A 22.2 24.5 5.0 20.0 2.0 154 32.4 0.099 5KP2AA 26.7 29.5 5.0 22.0 2.0 141 35.5 0.100 5KP2AA 26.7 29.5 5.0 24.0 2.0 119 42.1 0.101 5KP2AA 26.7 29.5 5.0 28.0 2.0 110 45.4 0.102 5KP3AA 31.1 34.4 5.0 28.0 2.0 110 45.4 0.102 5KP3AA 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP3AA 40.0 44.2 5.0 36.0 2.0 77.5 64.5 0.105 5KP4AA 47.8 52.8 5.0 45.0 2.0 75.4 67.1 0.106 5KP4AA 53.3 5.0	5KP16A	17.8	19.7	5.0	16.0	2.0	192	26.0	0.096
5KP20A 22.2 24.5 5.0 20.0 2.0 154 32.4 0.099 5KP22A 24.4 26.7 29.5 5.0 22.0 2.0 141 35.5 0.100 5KP2AA 26.7 29.5 5.0 24.0 2.0 129 38.9 0.101 5KP2AA 28.9 31.9 5.0 26.0 2.0 119 42.1 0.101 5KP2AA 33.3 36.8 5.0 26.0 2.0 110 45.4 0.102 5KP30A 33.3 36.8 5.0 30.0 2.0 93.8 53.3 0.104 5KP30A 40.6 5.0 33.0 2.0 88.1 0.103 48.4 0.103 5KP40A 44.4 49.1 5.0 40.0 2.0 77.5 64.5 0.105 5KP43A 50.0 55.3 5.0 45.0 2.0 68.8 72.7 0.106 5KP45A 60.0 <	5KP17A	18.9	20.9	5.0	17.0	2.0	181	27.6	0.097
5KP22A 24.4 26.9 5.0 22.0 2.0 141 35.5 0.100 5KP24A 26.7 29.5 5.0 24.0 2.0 129 38.9 0.101 5KP26A 28.9 31.9 5.0 26.0 2.0 119 42.1 0.101 5KP26A 33.3 36.8 5.0 30.0 2.0 110 45.4 0.102 5KP30A 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP36A 40.0 44.2 5.0 36.0 2.0 86.1 58.1 0.104 5KP36A 40.0 44.4 9.1 5.0 44.0 2.0 77.5 64.5 0.105 5KP43A 50.0 55.3 5.0 44.0 2.0 68.8 72.7 0.106 5KP43A 56.7 62.7 5.0 51.0 2.0 67.4 87.1 0.107 5KP54A 60.0 <t< td=""><td>5KP18A</td><td>20.0</td><td>22.1</td><td>5.0</td><td>18.0</td><td>2.0</td><td>171</td><td>29.2</td><td>0.098</td></t<>	5KP18A	20.0	22.1	5.0	18.0	2.0	171	29.2	0.098
5KP24A 26.7 29.5 5.0 24.0 2.0 129 38.9 0.101 5KP26A 28.9 31.9 5.0 26.0 2.0 119 42.1 0.101 5KP28A 31.1 34.4 5.0 28.0 2.0 110 45.4 0.102 5KP30A 33.3 36.8 5.0 33.0 2.0 103 48.4 0.103 5KP30A 40.0 44.2 5.0 33.0 2.0 93.8 53.3 0.104 5KP30A 40.0 44.2 5.0 36.0 2.0 77.5 64.5 0.105 5KP43A 47.8 52.8 5.0 43.0 2.0 77.0 69.4 0.105 5KP43A 53.3 58.9 5.0 48.0 2.0 64.6 77.4 0.106 5KP44A 60.0 66.3 5.0 54.0 2.0 57.4 87.1 0.107 5KP6A 61.4 71.2 <t< td=""><td>5KP20A</td><td>22.2</td><td>24.5</td><td>5.0</td><td>20.0</td><td>2.0</td><td>154</td><td>32.4</td><td>0.099</td></t<>	5KP20A	22.2	24.5	5.0	20.0	2.0	154	32.4	0.099
SKP26A 28.9 31.9 5.0 26.0 2.0 119 42.1 0.101 SKP28A 31.1 34.4 5.0 28.0 2.0 110 45.4 0.102 SKP30A 33.3 36.8 5.0 30.0 2.0 103 48.4 0.103 SKP30A 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 SKP30A 40.0 44.2 5.0 36.0 2.0 93.8 53.3 0.104 SKP40A 44.4 49.1 5.0 40.0 2.0 77.5 64.5 0.105 SKP43A 47.8 52.8 5.0 43.0 2.0 68.8 72.7 0.106 SKP45A 50.0 55.3 5.0 48.0 2.0 63.4 0.107 SKP5A 60.0 66.7 62.7 5.0 51.0 2.0 53.4 94 0.107 SKP5A 66.4 71.1	5KP22A	24.4	26.9	5.0	22.0	2.0	141	35.5	0.100
5KP28A 31.1 34.4 5.0 28.0 2.0 110 45.4 0.102 5KP30A 33.3 36.8 5.0 30.0 2.0 103 48.4 0.103 5KP30A 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP30A 40.0 44.2 5.0 36.0 2.0 86.1 58.1 0.104 5KP40A 44.4 49.1 5.0 40.0 2.0 77.5 64.5 0.105 5KP43A 47.8 52.8 5.0 45.0 2.0 72.0 69.4 0.106 5KP43A 53.3 58.9 5.0 48.0 2.0 68.8 72.7 0.106 5KP45A 60.0 66.3 5.0 54.0 2.0 67.4 87.1 0.107 5KP60A 66.7 73.7 5.0 68.0 2.0 51.7 97.0 0.108 5KP60A 71.1 78.6	5KP24A	26.7	29.5	5.0	24.0	2.0	129	38.9	0.101
5KP30A 33.3 36.8 5.0 30.0 2.0 103 48.4 0.103 5KP33A 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP36A 40.0 44.2 5.0 36.0 2.0 86.1 58.1 0.104 5KP40A 44.4 49.1 5.0 40.0 2.0 77.5 64.5 0.105 5KP43A 47.8 52.8 5.0 43.0 2.0 72.0 69.4 0.105 5KP43A 53.3 58.9 5.0 48.0 2.0 64.6 77.4 0.106 5KP43A 56.7 62.7 5.0 51.0 2.0 60.7 82.4 0.107 5KP54A 60.0 66.3 5.0 54.0 2.0 57.4 87.1 0.107 5KP60A 66.7 73.7 5.0 60.0 2.0 41.3 121 0.108 5KP75A 83.3 92.1	5KP26A	28.9	31.9	5.0	26.0	2.0	119	42.1	0.101
SKP33A 36.7 40.6 5.0 33.0 2.0 93.8 53.3 0.104 5KP36A 40.0 44.2 5.0 36.0 2.0 86.1 58.1 0.104 5KP40A 44.4 49.1 5.0 40.0 2.0 77.5 64.5 0.105 5KP43A 47.8 52.8 5.0 43.0 2.0 72.0 69.4 0.105 5KP43A 53.3 58.9 5.0 45.0 2.0 68.8 72.7 0.106 5KP43A 56.7 62.7 5.0 51.0 2.0 64.6 77.4 0.107 5KP54A 60.0 66.3 5.0 54.0 2.0 53.4 94 0.107 5KP64A 71.1 78.6 5.0 64.0 2.0 51.7 97.0 0.108 5KP70A 77.8 86.0 5.0 70.0 2.0 44.2 113 0.108 5KP7A 83.3 92.1 <	5KP28A	31.1	34.4	5.0	28.0	2.0	110	45.4	0.102
5KP36A 40.0 44.2 5.0 36.0 2.0 86.1 58.1 0.104 5KP40A 44.4 49.1 5.0 40.0 2.0 77.5 64.5 0.105 5KP43A 47.8 52.8 5.0 43.0 2.0 72.0 69.4 0.105 5KP45A 50.0 55.3 5.0 45.0 2.0 68.8 72.7 0.106 5KP45A 56.7 62.7 5.0 51.0 2.0 64.6 77.4 0.107 5KP51A 56.7 62.7 5.0 51.0 2.0 60.7 82.4 0.107 5KP54A 60.0 66.3 5.0 58.0 2.0 53.4 94 0.107 5KP60A 67.7 73.7 5.0 60.0 2.0 51.7 97.0 0.108 5KP60A 71.1 78.6 5.0 64.0 2.0 48.5 103 0.108 5KP6A 71.1 78.6 <	5KP30A	33.3	36.8	5.0	30.0	2.0	103	48.4	0.103
SKP40A44.449.15.040.02.077.564.50.105SKP43A47.852.85.043.02.072.069.40.105SKP45A50.055.35.045.02.068.872.70.106SKP48A53.358.95.048.02.064.677.40.106SKP51A56.762.75.051.02.060.782.40.107SKP54A60.066.35.054.02.057.487.10.107SKP58A64.471.25.058.02.053.4940.107SKP60A66.773.75.060.02.051.797.00.108SKP64A71.178.65.064.02.044.21130.108SKP70A77.886.05.075.02.044.21130.108SKP75A83.392.15.075.02.041.31210.108SKP78A86.795.85.078.02.039.71260.108SKP8A94.41045.085.02.030.91620.110SKP8A94.41045.085.02.030.91620.110SKP8A94.41045.085.02.030.91620.110SKP90A1001115.090.02.034.21460.110SKP10A1	5KP33A	36.7	40.6	5.0	33.0	2.0	93.8	53.3	0.104
SKP43A47.852.85.043.02.072.069.40.105SKP45A50.055.35.045.02.068.872.70.106SKP48A53.358.95.048.02.064.677.40.106SKP51A56.762.75.051.02.060.782.40.107SKP54A60.066.35.054.02.057.487.10.107SKP54A66.773.75.060.02.051.797.00.108SKP60A66.773.75.060.02.051.797.00.108SKP64A71.178.65.064.02.044.21130.108SKP70A77.886.05.070.02.044.21130.108SKP75A83.392.15.078.02.039.71260.108SKP78A86.795.85.078.02.036.51370.110SKP8A94.41045.085.02.036.51370.110SKP90A1001115.090.02.034.21460.110SKP10A1221355.01102.028.21770.112SKP10A1141595.01102.028.21770.112SKP10A1441595.01302.023.920.90.112SKP10A144<	5KP36A	40.0	44.2	5.0	36.0	2.0	86.1	58.1	0.104
SKP45A50.055.35.045.02.068.872.70.106SKP48A53.358.95.048.02.064.677.40.106SKP51A56.762.75.051.02.060.782.40.107SKP54A60.066.35.054.02.057.487.10.107SKP58A64.471.25.058.02.053.4940.107SKP60A66.773.75.060.02.051.797.00.108SKP64A71.178.65.064.02.044.51030.108SKP70A77.886.05.070.02.044.21130.108SKP75A83.392.15.075.02.041.31210.108SKP85A94.41045.085.02.036.51370.110SKP80A1001115.090.02.034.21460.110SKP85A94.41045.085.02.036.51370.110SKP10A1111235.01102.028.21770.112SKP10A1331475.01202.025.91930.112SKP130A1671855.01302.023.92090.112SKP150A1671855.01502.023.92590.112SKP150A167	5KP40A	44.4	49.1	5.0	40.0	2.0	77.5	64.5	0.105
SKP48A53.358.95.048.02.064.677.40.106SKP51A56.762.75.051.02.060.782.40.107SKP54A60.066.35.054.02.057.487.10.107SKP58A64.471.25.058.02.053.4940.107SKP60A66.773.75.060.02.051.797.00.108SKP64A71.178.65.064.02.048.51030.108SKP70A77.886.05.070.02.044.21130.108SKP75A83.392.15.075.02.041.31210.108SKP78A86.795.85.078.02.039.71260.108SKP85A94.41045.085.02.036.51370.110SKP100A1111235.01102.028.21770.112SKP100A1111235.01102.028.21770.112SKP100A1141595.01302.025.91930.112SKP130A1441595.01302.023.92090.112SKP150A1671855.01502.019.32590.112SKP150A1671855.01502.018.22750.112SKP150A167	5KP43A	47.8	52.8	5.0	43.0	2.0	72.0	69.4	0.105
SKP51A56.762.75.051.02.060.782.40.107SKP54A60.066.35.054.02.057.487.10.107SKP5AA64.471.25.058.02.053.4940.107SKP6AA66.773.75.060.02.051.797.00.108SKP6AA71.178.65.064.02.048.51030.108SKP70A77.886.05.070.02.044.21130.108SKP75A83.392.15.075.02.041.31210.108SKP78A86.795.85.078.02.039.71260.108SKP85A94.41045.085.02.034.21460.110SKP90A1001115.090.02.034.21460.110SKP10A1111235.01102.028.21770.112SKP10A1111235.01102.028.21170.112SKP10A1131475.01202.023.92090.112SKP10A1671855.01502.023.92090.112SKP10A1671855.01502.020.62430.112SKP10A1671855.01502.020.62430.112SKP150A167185 </td <td>5KP45A</td> <td>50.0</td> <td>55.3</td> <td>5.0</td> <td>45.0</td> <td>2.0</td> <td>68.8</td> <td>72.7</td> <td>0.106</td>	5KP45A	50.0	55.3	5.0	45.0	2.0	68.8	72.7	0.106
5KP54A60.066.35.054.02.057.487.10.1075KP58A64.471.25.058.02.053.4940.1075KP60A66.773.75.060.02.051.797.00.1085KP64A71.178.65.064.02.048.51030.1085KP70A77.886.05.070.02.044.21130.1085KP75A83.392.15.075.02.041.31210.1085KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.034.21460.1105KP90A1001115.090.02.034.21460.1105KP10A1111235.01102.028.21770.1125KP10A1331475.01302.023.92090.1125KP10A1671855.01502.023.92090.1125KP10A1671855.01502.023.92090.1125KP10A1781975.01602.019.32590.1125KP10A1892095.01702.018.22750.112	5KP48A	53.3	58.9	5.0	48.0	2.0	64.6	77.4	0.106
5KP58A64.471.25.058.02.053.4940.1075KP60A66.773.75.060.02.051.797.00.1085KP64A71.178.65.064.02.048.51030.1085KP70A77.886.05.070.02.044.21130.1085KP75A83.392.15.075.02.041.31210.1085KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP10A1111235.01102.028.21770.1125KP10A1331475.01302.023.92090.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.023.92090.1125KP150A1671855.01502.019.32590.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP51A	56.7	62.7	5.0	51.0	2.0	60.7	82.4	0.107
5KP60A66.773.75.060.02.051.797.00.1085KP64A71.178.65.064.02.048.51030.1085KP70A77.886.05.070.02.044.21130.1085KP75A83.392.15.075.02.041.31210.1085KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP10A1111235.01102.028.21770.1125KP110A1221355.01102.023.92090.1125KP130A1441595.01502.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.018.22750.112	5KP54A	60.0	66.3	5.0	54.0	2.0	57.4	87.1	0.107
5KP64A71.178.65.064.02.048.51030.1085KP70A77.886.05.070.02.044.21130.1085KP75A83.392.15.075.02.041.31210.1085KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP10A1111235.01102.028.21770.1125KP10A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP58A	64.4	71.2	5.0	58.0	2.0	53.4	94	0.107
5KP70A77.886.05.070.02.044.21130.1085KP75A83.392.15.075.02.041.31210.1085KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP100A1111235.01002.030.91620.1105KP10A1121355.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP60A	66.7	73.7	5.0	60.0	2.0	51.7	97.0	0.108
5KP75A83.392.15.075.02.041.31210.1085KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP100A1111235.01002.030.91620.1105KP100A1111235.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP160A1671855.01502.019.32590.1125KP160A1781975.01602.018.22750.112	5KP64A	71.1	78.6	5.0	64.0	2.0	48.5	103	0.108
5KP78A86.795.85.078.02.039.71260.1085KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP100A1111235.01002.030.91620.1105KP110A1221355.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP160A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP70A	77.8	86.0	5.0	70.0	2.0	44.2	113	0.108
5KP85A94.41045.085.02.036.51370.1105KP90A1001115.090.02.034.21460.1105KP100A1111235.01002.030.91620.1105KP110A1221355.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP75A	83.3	92.1	5.0	75.0	2.0	41.3	121	0.108
5KP90A1001115.090.02.034.21460.1105KP100A1111235.01002.030.91620.1105KP10A1221355.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP78A	86.7	95.8	5.0	78.0	2.0	39.7	126	0.108
5KP100A1111235.01002.030.91620.1105KP110A1221355.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP85A	94.4	104	5.0	85.0	2.0	36.5	137	0.110
5KP110A1221355.01102.028.21770.1125KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP90A	100	111	5.0	90.0	2.0	34.2	146	0.110
5KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP100A	111	123	5.0	100	2.0	30.9	162	0.110
5KP120A1331475.01202.025.91930.1125KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP110A	122	135	5.0	110	2.0	28.2	177	0.112
5KP130A1441595.01302.023.92090.1125KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP120A	133	147	5.0	120	2.0		193	0.112
5KP150A1671855.01502.020.62430.1125KP160A1781975.01602.019.32590.1125KP170A1892095.01702.018.22750.112	5KP130A	144		5.0	130	-		209	0.112
5KP170A 189 209 5.0 170 2.0 18.2 275 0.112			185					243	
5KP170A 189 209 5.0 170 2.0 18.2 275 0.112	5KP160A	178	197	5.0	160	2.0	19.3	259	0.112
	5KP170A								
	5KP188A	209	231	5.0	188	2.0	15.2	328	0.112

Notes

 $^{(1)}$ Pulse test: $t_p \leq 50$ ms $^{(2)}$ Surge current waveform per fig. 3 and derate per fig. 2

(3) All terms and symbols are consistent with ANSI/IEEE CA62.35

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Vishay General Semiconductor

ORDERING INFORMATION (Example)					
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
5KP8.5A-E3/54	2.776	54	800	13" diameter paper tape and reel	
5KP8.5AHE3_A/C ⁽¹⁾	2.776	С	800	13" diameter paper tape and reel	

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

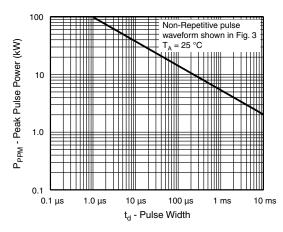


Fig. 1 - Peak Pulse Power Rating Curve

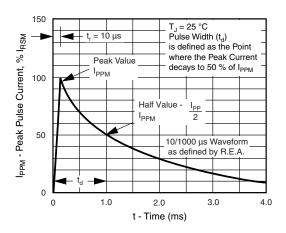


Fig. 3 - Pulse Waveform

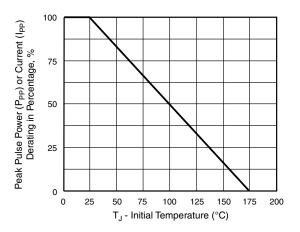


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

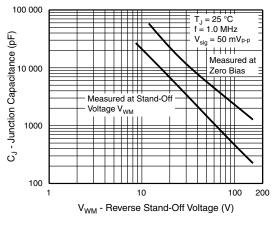


Fig. 4 - Typical Junction Capacitance



5KP8.5A thru 5KP188A

Vishay General Semiconductor

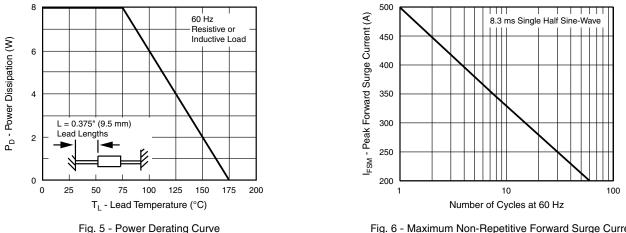
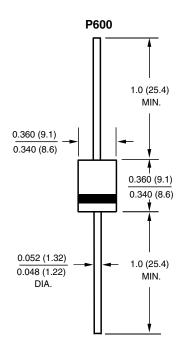


Fig. 6 - Maximum Non-Repetitive Forward Surge Current

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



APPLICATION NOTES

The 5KP series of high power transient voltage suppressors were designed to be used on the output of switching power supplies. These devices may be used to replace crowbar circuits.

They are able to withstand high levels of peak current while allowing a circuit breaker to trip or a fuse blow before

shorting. This will enable the user to reset the breaker or replace the fuse and continue operation. For this type operation, it is recommended that a sufficient mounting surface be used for dissipating the heat generated by the Transient Voltage Suppressor during the transient or over-voltage condition.

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