

semiconductors :: product :: **Transient Voltage Suppressor (TVS)**

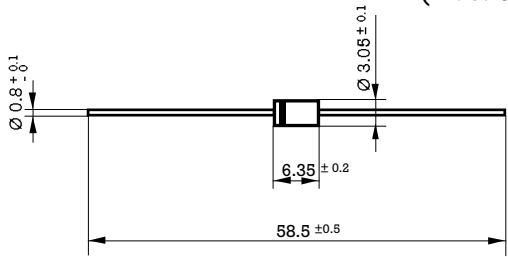

**Product: Transient Voltage Suppressor (TVS)**

These devices able to absorb high levels of energy in short time pulses without damage, having a very fast response time (<1ps) and an excellent clamping factor are specially suited for protection purposes in application of Automotive, Consumer and Computer sectors.

FAGOR ELECTRONICA offers unidirectional and bidirectional TVS products covering the range from 400W to 5000W, assembled in both leaded and SMD packages.

Product	Family	I <sub>pp</sub> (A)	V <sub>CL</sub> (V)	V <sub>Z</sub> (V)	P <sub>pp</sub> (W)	DIREC	OUTLINE
<a href="#">P6KE33CA</a>	P6KE-CA	13.2	45.7	33	600W	BIDIREC.	DO-15

## 600W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

<p>Dimensions in mm.</p> <p style="text-align: right;">DO-15 (Plastic)</p> 	<p>Peak Pulse Power Rating At 1 ms. Exp. 600 W</p> <p>Reverse stand-off Voltage 5.5 ÷ 376 V</p> 
<p><b>Mounting instructions</b></p> <ol style="list-style-type: none"> <li>1. Min. distance from body to soldering point, 4 mm.</li> <li>2. Max. solder temperature, 300 °C.</li> <li>3. Max. soldering time, 3.5 sec.</li> <li>4. Do not bend lead at a point closer than 2 mm. to the body.</li> </ol>	<ul style="list-style-type: none"> <li>• Glass passivated junction</li> <li>• Low Capacitance AC signal protection</li> <li>• Response time typically &lt; 1 ns.</li> <li>• Molded case</li> <li>• The plastic material carries U/L recognition 94 V-0</li> <li>• Terminals: Axial leads</li> </ul>

### Maximum Ratings, according to IEC publication No. 134

$P_{PP}$	Peak pulse power with 10/1000 $\mu$ s exponential pulse	600 W
$I_{FSM}$	Non repetitive surge peak forward current (t = 8.3 msec.) (Jedec Method) (Note 1)	100 A
$T_j$	Operating temperature range	- 65 to + 175 °C
$T_{stg}$	Storage temperature range	- 65 to + 175 °C
$P_{M(AV)}$	Steady state Power dissipation (l = 10 mm)	5 W

### Electrical Characteristics at Tamb = 25 °C

$V_F$	Max. forward voltage drop at $I_F = 50$ A (Note 1)	$V_{BR} \leq 220$ V $V_{BR} > 220$ V	3.5 V 5.0 V
$R_{thj-l}$	Max. thermal resistance (l = 10 mm.)		30 °C/W

Note 1: Valid only for Unidirectional.

Type	Maximum Reverse Leakage Current		(1) Breakdown Voltage			$I_R$ (mA)	Max. Clamping Voltage	
	$I_{RM}$ ( $\mu$ A)	at $V_{RM}$ (V)	Min.	Nom.	Max.		$V_{CL}$ (V)	at $I_{pp}$ (A)
Bidirectional								
P6KE6V8C	1000	5.50	6.12	6.8	7.48	10	10.8	56
P6KE6V8CA	1000	5.80	6.45	6.8	7.14	10	10.5	57
P6KE7V5C	500	6.05	6.75	7.5	8.25	10	11.7	51
P6KE7V5CA	500	6.40	7.13	7.5	7.88	10	11.3	53
P6KE8V2C	200	6.63	7.38	8.2	9.02	10	12.5	48
P6KE8V2CA	200	7.02	7.79	8.2	8.61	10	12.1	50
P6KE9V1C	50	7.37	8.19	9.1	10.0	1	13.8	44
P6KE9V1CA	50	7.78	8.65	9.1	9.55	1	13.4	45
P6KE10C	10	8.10	9.00	10	11.0	1	15.0	40
P6KE10CA	10	8.55	9.50	10	10.5	1	14.5	41
P6KE11C	5	8.92	9.90	11	12.1	1	16.2	37
P6KE11CA	5	9.40	10.5	11	11.6	1	15.6	38
P6KE12C	5	9.72	10.8	12	13.2	1	17.3	35
P6KE12CA	5	10.2	11.4	12	12.6	1	16.7	36
P6KE13C	5	10.5	11.7	13	14.3	1	19.0	32
P6KE13CA	5	11.1	12.4	13	13.7	1	18.2	33
P6KE15C	5	12.1	13.5	15	16.5	1	22.0	27
P6KE15CA	5	12.8	14.3	15	15.8	1	21.2	28
P6KE16C	5	12.9	14.4	16	17.6	1	23.5	26
P6KE16CA	5	13.6	15.2	16	16.8	1	22.5	27
P6KE18C	5	14.5	16.2	18	19.8	1	26.5	23
P6KE18CA	5	15.3	17.1	18	18.9	1	25.5	24
P6KE20C	5	16.2	18.0	20	22.0	1	29.1	21
P6KE20CA	5	17.1	19.0	20	21.0	1	27.7	22
P6KE22C	5	17.8	19.8	22	24.2	1	31.9	19
P6KE22CA	5	18.8	20.9	22	23.1	1	30.6	20
P6KE24C	5	19.4	21.6	24	26.4	1	34.7	17
P6KE24CA	5	20.5	22.8	24	25.2	1	33.2	18
P6KE27C	5	21.8	24.3	27	29.7	1	39.1	15
P6KE27CA	5	23.1	25.7	27	28.4	1	37.5	16
P6KE30C	5	24.3	27.0	30	33.0	1	43.5	14
P6KE30CA	5	25.6	28.5	30	31.5	1	41.4	14.4
P6KE33C	5	26.8	29.7	33	36.3	1	47.7	12.6
P6KE33CA	5	28.2	31.4	33	34.7	1	45.7	13.2
P6KE36C	5	29.1	32.4	36	39.6	1	52.0	11.6
P6KE36CA	5	30.8	34.2	36	37.8	1	49.9	12
P6KE39C	5	31.6	35.1	39	42.9	1	56.4	10.6
P6KE39CA	5	33.3	37.1	39	41.0	1	53.9	11.2
P6KE43C	5	34.8	38.7	43	47.3	1	61.9	9.6
P6KE43CA	5	36.8	40.9	43	45.2	1	59.3	10.1
P6KE47C	5	38.1	42.3	47	51.7	1	67.8	8.9
P6KE47CA	5	40.2	44.7	47	49.4	1	64.8	9.3
P6KE51C	5	41.3	45.9	51	56.1	1	73.5	8.2
P6KE51CA	5	43.6	48.5	51	53.6	1	70.1	8.6

(1) Tested with pulses.  
Pulse test:  $t_p$  50 ms;  $< 2\%$