PLAD™

PLASTIC LARGE AREA DEVICE

SURFACE MOUNT

Miniature

RoHS

Large Area

Microsemi®

Introducing PLAD™

The World's First High Power TVS Devices In Surface Mount Packaging

It is easy to locate a high power transient voltage suppression device on many circuit boards. Simply spot the only through-hole component on the board. The rest will be surface mounted devices.

Microsemi's breakthrough PLAD packaging development changes all that.
Patent Pending.

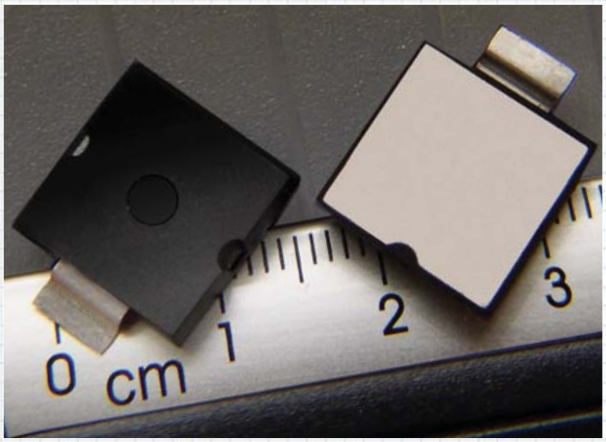
PLAD -- for Plastic Large Area Devices -- creates a new generation of high power surface mount TVS components that, for the first time, will require no through-hole assembly.

Instead, these components will enjoy all the benefits of surface mount technology: low profile, excellent thermal dissipation, and economical pick-and-place board assembly using standard tape and reel packages.

PLAD is the latest in packaging innovations from Microsemi that includes our patented Powermite® surface mount for low power devices, CoolPack™, Thinkey™ and hermetic power modules.

As a global leader in transient voltage suppression technology, Microsemi not only supplies the industry with the most innovative packaging in PLAD, but also brings its proven portfolio of high reliability Schottky and rectifier diodes within the package.

Here's the high power TVS solution with everything: reliable Microsemi Schottky and rectifier diodes in space-saving, cost-cutting surface mount packaging. Unique. Only from Microsemi.



TVS
- 15KW (10/1000) bi-directional
- 30KW (10/1000) uni-directional
- 30KW (10/1000) bi-directional (special die)

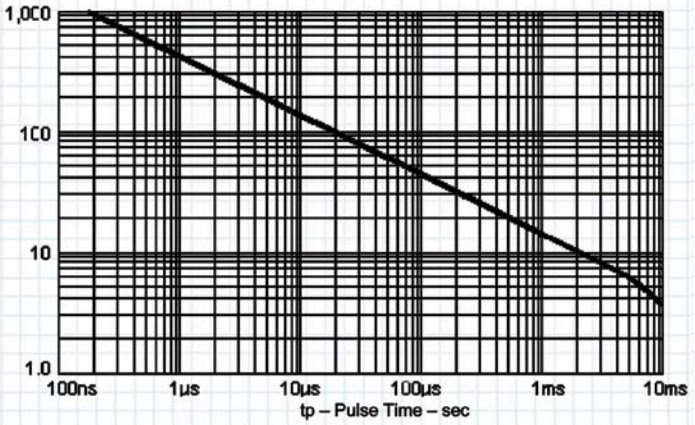
Schottky
- 15-200V, 150A

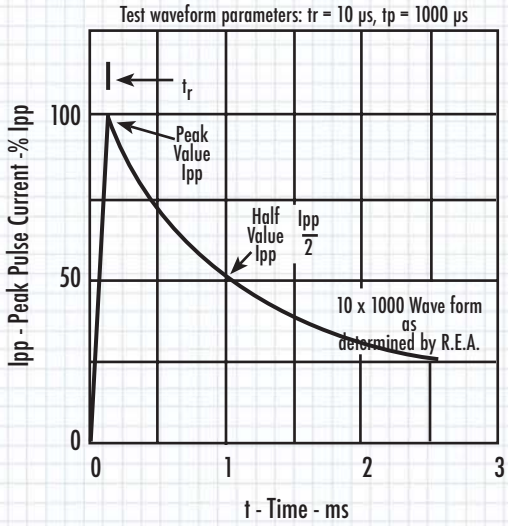
Rectifier
- 10-1000V, 200A

PLAD Features
- Exposed surfaces are solderable for standard surface mount processes
- Can be screened for Hi-Rel applications such as commercial aviation, heavy industrial, etc.
- No wire bonds
- TVS can be used in standard 10/1000 µS applications or in load dump applications.
- Very low thermal resistance, calculated to be below 0.20C/W
- The same footprint is used for all device types (TVS, Rectifier, and Schottky).
- Replaces through-hole 15KP and 30KP devices for surface mount applications
- Very low inductance package design
- Internal materials have matched CTE for temperature cycling
- Can be supplied RoHS compliant, e3

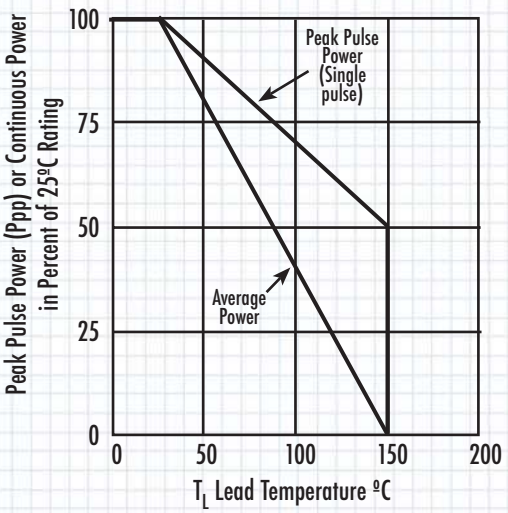
Performance Data

- PLAD 15KP
- PLAD 30KP





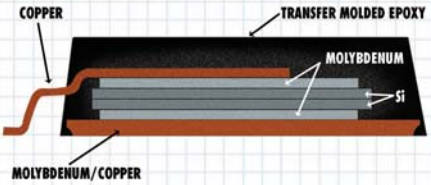
Pulse Wave Form

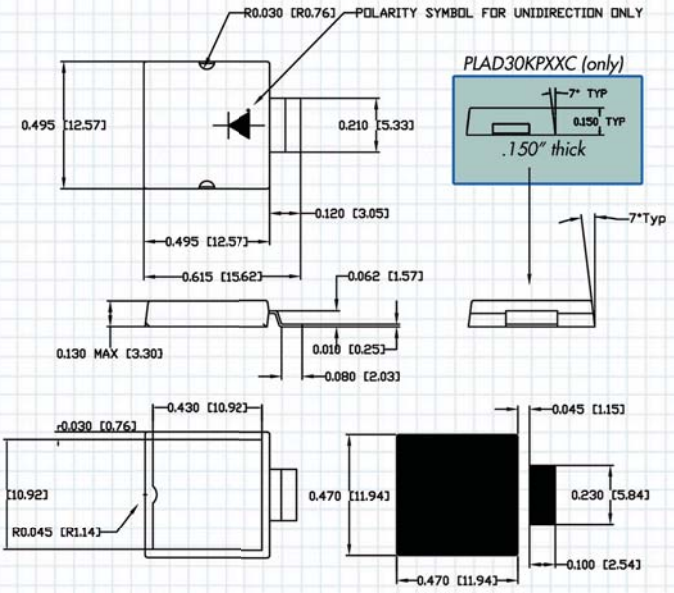


Derating Curve

Dimensions

- PLAD 15KP
- PLAD 30KP





PLAD 15KP7.0 - PLAD 15KP200CA, e3

15kW Surface Mount Transient Voltage Suppressor

Microsemi Part Number (Note 2)	Reverse Stand-off Voltage V_{WM} (Note 1)	Breakdown Voltage $V_{(BR)}$		Maximum Clamping Voltage Vc @ I_{PP}	Maximum Standby Current I_D @ V_{WM}	Maximum Peak Pulse Current I_{PP} (Fig. 3)	Maximum Temperature Coefficient of V_{BR}
	Volts	$V_{(BR)}$ @ Volts	I(BR) mA	Volts	µA	A	$\alpha_{V(BR)}$ mV/ °C
PLAD15KP7.0	7.0	7.78 – 9.51	150	13.3	3000	1134	5.0
PLAD15KP7.0A	7.0	7.78 – 8.60	150	12.0	3000	1251	5.0
PLAD15KP7.5	7.5	8.33 – 10.2	5	14.3	750	1350	6.0
PLAD15KP7.5A	7.5	8.33 – 9.21	5	12.9	750	1164	6.0
PLAD15KP8.0	8.0	8.89 – 10.9	5	15.0	450	999	6.0
PLAD15KP8.0A	8.0	8.89 – 9.83	5	13.6	450	1101	6.0
PLAD15KP8.5	8.5	9.44 – 11.5	5	15.9	150	942	7.0
PLAD15KP8.5A	8.5	9.44 – 10.4	5	14.4	150	1041	7.0
PLAD15KP9.0	9.0	10.0 – 12.2	5	16.9	120	885	8.0
PLAD15KP9.0A	9.0	10.0 – 11.1	5	15.4	60	975	8.0
PLAD15KP10	10	11.1 – 13.6	5	18.8	45	798	9.0
PLAD15KP10A	10	11.1 – 12.3	5	17.0	45	882	9.0
PLAD15KP11	11	12.2 – 14.9	5	20.1	10	747	10
PLAD15KP11A	11	12.2 – 13.5	5	18.2	10	822	10
PLAD15KP12	12	13.3 – 16.3	5	22.0	10	681	11
PLAD15KP12A	12	13.3 – 14.7	5	19.9	10	753	11
PLAD15KP13	13	14.4 – 17.6	5	23.8	10	630	12
PLAD15KP13A	13	14.4 – 15.9	5	21.5	10	696	12
PLAD15KP14	14	15.6 – 19.1	5	25.8	10	582	13
PLAD15KP14A	14	15.6 – 17.2	5	23.2	10	645	13
PLAD15KP15	15	16.7 – 20.4	5	26.9	10	564	15
PLAD15KP15A	15	16.7 – 18.5	5	24.4	10	318	15
PLAD15KP16	16	17.8 – 21.8	5	28.8	10	528	18
PLAD15KP16A	16	17.8 – 19.7	5	26.0	10	576	16
PLAD15KP17	17	18.9 – 23.1	5	30.5	10	492	19
PLAD15KP17A	17	18.9 – 20.9	5	27.6	10	543	18
PLAD15KP18	18	20.0 – 24.4	5	32.2	10	465	20
PLAD15KP18A	18	20.0 – 22.1	5	29.2	10	516	19
PLAD15KP20	20	22.2 – 27.1	5	35.8	10	417	24
PLAD15KP20A	20	22.2 – 24.5	5	32.4	10	462	22
PLAD15KP22	22	24.4 – 29.8	5	39.4	10	381	27
PLAD15KP22A	22	24.4 – 26.9	5	35.5	10	423	24
PLAD15KP24	24	26.7 – 32.6	5	43.0	10	348	30
PLAD15KP24A	24	26.7 – 29.5	5	38.9	10	384	27
PLAD15KP26	26	28.9 – 35.3	5	46.6	10	321	33
PLAD15KP26A	26	28.9 – 31.9	5	42.1	10	357	29
PLAD15KP28	28	31.1 – 38.0	5	50.1	10	297	34
PLAD15KP28A	28	31.1 – 34.4	5	45.5	10	330	30
PLAD15KP30	30	33.3 – 40.7	5	53.5	10	279	38
PLAD15KP30A	30	33.3 – 36.8	5	48.4	10	309	35
PLAD15KP33	33	36.7 – 44.9	5	59.0	10	255	41
PLAD15KP33A	33	36.7 – 40.6	5	53.3	10	282	38
PLAD15KP36	36	40.0 – 48.9	5	64.3	10	234	45
PLAD15KP36A	36	40.0 – 44.2	5	58.1	10	258	40
PLAD15KP40	40	44.4 – 54.3	5	71.4	10	210	50
PLAD15KP40A	40	44.4 – 49.1	5	64.5	10	234	45
PLAD15KP43	43	47.8 – 58.4	5	46.7	10	195	54
PLAD15KP43A	43	47.8 – 52.8	5	69.4	10	216	49
PLAD15KP45	45	50.0 – 61.1	5	80.3	10	186	57
PLAD15KP45A	45	50.0 – 55.3	5	72.7	10	207	51
PLAD15KP48	48	53.3 – 65.1	5	85.5	10	174	62
PLAD15KP48A	48	53.3 – 58.9	5	77.4	10	195	55

Microsemi Part Number (Note 2)	Reverse Stand-off Voltage V_{WM} (Note 1)	Breakdown Voltage $V_{(BR)}$		Maximum Clamping Voltage Vc @ I_{PP}	Maximum Standby Current I_D @ V_{WM}	Maximum Peak Pulse Current I_{PP} (Fig. 3)	Maximum Temperature Coefficient of V_{BR}
	Volts	$V_{(BR)}$ @ Volts	I(BR) mA	Volts	µA	A	$\alpha_{V(BR)}$ mV/ °C
PLAD15KP51	51	56.7 – 69.3	5	91.1	10	165	65
PLAD15KP51A	51	56.7 – 62.7	5	82.4	10	183	60
PLAD15KP54	54	60.0 – 73.3	5	96.3	10	156	70
PLAD15KP54A	54	60.0 – 66.3	5	87.1	10	171	64
PLAD15KP58	58	64.4 – 78.7	5	103.0	10	147	77
PLAD15KP58A	58	64.4 – 71.2	5	93.6	10	159	69
PLAD15KP60	60	66.7 – 81.5	5	107.0	10	141	79
PLAD15KP60A	60	66.7 – 73.7	5	96.8	10	156	70
PLAD15KP64	64	71.1 – 86.9	5	114.0	10	132	85
PLAD15KP64A	64	71.1 – 78.6	5	103.0	10	147	75
PLAD15KP70	70	77.8 – 95.1	5	125	10	120	93
PLAD15KP70A	70	77.8 – 86.0	5	113	10	132	84
PLAD15KP75	75	83.3 – 102.0	5	134	10	111	100
PLAD15KP75A	75	83.3 – 92.1	5	121	10	123	90
PLAD15KP78	78	86.7 – 106.0	5	139	10	108	104
PLAD15KP78A	78	86.7 – 95.8	5	126	10	120	94
PLAD15KP85	85	94.4 – 115.0	5	151	10	99	113
PLAD15KP85A	85	94.4 – 104.0	5	137	10	108	102
PLAD15KP90	90	100 – 122	5	160	10	93	120
PLAD15KP90A	90	100 – 111	5	146	10	102	109
PLAD15KP100	100	111 – 136	5	179	10	84	134
PLAD15KP100A	100	111 – 123	5	162	10	93	122
PLAD15KP110	110	122 – 149	5	196	10	78	147
PLAD15KP110A	110	122 – 135	5	177	10	84	132
PLAD15KP120	120	133 – 163	5	214	10	70	161
PLAD15KP120A	120	133 – 147	5	193	10	78	145
PLAD15KP130	130	144 – 176	5	231	10	65	174
PLAD15KP130A	130	144 – 159	5	209	10	71	157
PLAD15KP150	150	167 – 204	5	268	10	56	202
PLAD15KP150A	150	167 – 185	5	243	10	62	183
PLAD15KP160	160	178 – 218	5	287	10	52	216
PLAD15KP160A	160	178 – 197	5	259	10	58	195
PLAD15KP170	170	189 – 231	5	304	10	49	229
PLAD15KP170A	170	189 – 209	5	275	10	55	207
PLAD15KP180	180	200 – 244	5	321	10	47	242
PLAD15KP180A	180	200 – 221	5	291	10	52	219
PLAD15KP200	200	222 – 271	5	356	10	42	269
PLAD15KP200A	200	222 – 245	5	322	10	47	243

Note 1: Transient Voltage Suppressors are normally selected with reverse “Stand Off Voltage” Vwm which should be equal to or greater than the dc or continuous peak operating voltage level.

Note 2: For bidirectional construction, indicate a C or CA suffix after the part number.

SYMBOLS & DEFINITIONS

Symbol	Definition	Symbol	Definition
V_{WM}	Working Peak (Standoff) Voltage	I_{PP}	Peak Pulse Current
P_{PP}	Peak Pulse Power	V_C	Clamping Voltage
$V_{(BR)}$	Breakdown Voltage	$I_{(BR)}$	Breakdown Current for $V_{(BR)}$
I_D	Standby Current		

PLAD 30KP14 - PLAD 30KP400CA, e3

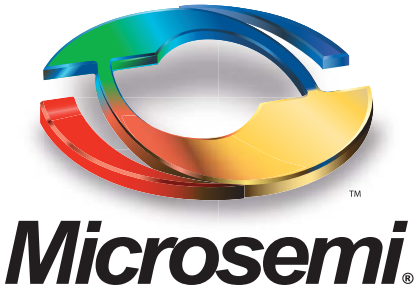
30kW Surface Mount Transient Voltage Suppressor

Microsemi Part Number (Note 2)	Reverse Stand-off Voltage V_{WM} (Note 1)	Breakdown Voltage $V_{(BR)}$		Maximum Clamping Voltage Vc @ I_{PP}	Maximum Standby Current I_D @ V_{WM}	Maximum Peak Pulse Current I_{PP} (Fig. 3)	Maximum Temperature Coefficient of V_{BR}
	Volts	$V_{(BR)}$ @ Volts	I(BR) mA	Volts	µA	A	$\alpha_{V(BR)}$ mV/ °C
PLAD30KP14	14	15.6 – 19.1	150	26.6	3000	1134	10
PLAD30KP14A	14	15.6 – 17.2	150	24.0	3000	1251	10
PLAD30KP15	15	16.7 – 20.4	5	28.6	750	1350	12
PLAD30KP15A	15	16.7 – 18.5	5	25.8	750	1164	12
PLAD30KP16	16	17.8 – 21.8	5	30.0	450	999	13
PLAD30KP16A	16	17.8 – 19.7	5	27.2	450	1101	12
PLAD30KP17	17	18.9 – 23.1	5	31.8	150	942	15
PLAD30KP17A	17	18.9 – 20.9	5	28.8	150	1041	14
PLAD30KP18	18	20.0 – 24.4	5	33.8	120	885	17
PLAD30KP18A	18	20.0 – 22.1	5	30.8	60	975	16
PLAD30KP20	20	22.2 – 27.1	5	37.6	45	798	19
PLAD30KP20A	20	22.2 – 24.5	5	34.0	45	882	18
PLAD30KP22	22	24.4 – 29.8	5	40.2	10	747	22
PLAD30KP22A	22	24.4 – 26.9	5	36.4	10	822	20
PLAD30KP24	24	26.7 – 32.6	5	44.0	10	681	24
PLAD30KP24A	24	26.7 – 29.5	5	39.8	10	753	22
PLAD30KP26	26	28.9 – 35.3	5	47.6	10	630	27
PLAD30KP26A	26	28.9 – 31.9	5	43.0	10	696	24
PLAD30KP28	28	31.1 – 38.0	5	51.6	10	582	29
PLAD30KP28A	28	31.1 – 34.4	5	46.4	10	645	26
PLAD30KP30	30	33.3 – 40.7	5	53.8	10	564	36
PLAD30KP30A	30	33.3 – 36.8	5	48.8	10	618	30
PLAD30KP33	33	36.7 – 44.9	5	59.0	10	510	37
PLAD30KP33A	33	36.7 – 40.6	5	53.3	10	564	35
PLAD30KP36	36	40.0 – 48.9	5	64.3	10	468	40
PLAD30KP36A	36	40.0 – 44.2	5	58.1	10	516	38
PLAD30KP40	40	44.4 – 54.3	5	71.4	10	420	48
PLAD30KP40A	40	44.4 – 49.1	5	64.5	10	468	44
PLAD30KP43	43	47.8 – 58.4	5	46.7	10	390	53
PLAD30KP43A	43	47.8 – 52.8	5	69.4	10	432	50
PLAD30KP45	45	50.0 – 61.1	5	80.3	10	372	54
PLAD30KP45A	45	50.0 – 55.3	5	72.7	10	414	51
PLAD30KP48	48	53.3 – 65.1	5	85.5	10	348	60
PLAD30KP48A	48	53.3 – 58.9	5	77.4	10	390	54
PLAD30KP51	51	56.7 – 69.3	5	91.1	10	330	65
PLAD30KP51A	51	56.7 – 62.7	5	82.4	10	366	58
PLAD30KP54	54	60.0 – 73.3	5	96.3	10	312	68
PLAD30KP54A	54	60.0 – 66.3	5	87.1	10	342	64
PLAD30KP58	58	64.4 – 78.7	5	103.0	10	294	75
PLAD30KP58A	58	64.4 – 71.2	5	93.6	10	318	70
PLAD30KP60	60	66.7 – 81.5	5	107.0	10	282	80
PLAD30KP60A	60	66.7 – 73.7	5	96.8	10	312	72
PLAD30KP64	64	71.1 – 86.9	5	114.0	10	264	85
PLAD30KP64A	64	71.1 – 78.6	5	103.0	10	294	75
PLAD30KP70	70	77.8 – 95.1	5	125	10	240	93
PLAD30KP70A	70	77.8 – 86.0	5	113	10	264	84
PLAD30KP75	75	83.3 – 102.0	5	134	10	222	100
PLAD30KP75A	75	83.3 – 92.1	5	121	10	246	90
PLAD30KP78	78	86.7 – 106.0	5	139	10	216	104
PLAD30KP78A	78	86.7 – 95.8	5	126	10	240	95
PLAD30KP85	85	94.4 – 115.0	5	151	10	198	115
PLAD30KP85A	85	94.4 – 104.0	5	137	10	216	104

Microsemi Part Number (Note 2)	Reverse Stand-off Voltage V_{WM} (Note 1)	Breakdown Voltage $V_{(BR)}$		Maximum Clamping Voltage Vc @ I_{PP}	Maximum Standby Current I_D @ V_{WM}	Maximum Peak Pulse Current I_{PP} (Fig. 3)	Maximum Temperature Coefficient of V_{BR}
	Volts	$V_{(BR)}$ @ Volts	I(BR) mA	Volts	µA	A	$\alpha_{V(BR)}$ mV/ °C
PLAD30KP90	90	100 – 122	5	160	10	186	120
PLAD30KP90A	90	100 – 111	5	146	10	204	109
PLAD30KP100	100	111 – 136	5	179	10	168	134
PLAD30KP100A	100	111 – 123	5	162	10	186	122
PLAD30KP110	110	122 – 149	5	196	10	156	147
PLAD30KP110A	110	122 – 135	5	177	10	168	132
PLAD30KP120	120	133 – 163	5	214	10	140	161
PLAD30KP120A	120	133 – 147	5	193	10	156	145
PLAD30KP130	130	144 – 176	5	231	10	130	174
PLAD30KP130A	130	144 – 159	5	209	10	142	157
PLAD30KP150	150	167 – 204	5	268	10	112	202
PLAD30KP150A	150	167 – 185	5	243	10	124	183
PLAD30KP160	160	178 – 218	5	287	10	104	216
PLAD30KP160A	160	178 – 197	5	259	10	116	195
PLAD30KP170	170	189 – 231	5	304	10	98	229
PLAD30KP170A	170	189 – 209	5	275	10	110	207
PLAD30KP180	180	200 – 244	5	321	10	94	242
PLAD30KP180A	180	200 – 221	5	291	10	104	219
PLAD30KP200	200	222 – 271	5	356	10	84	269
PLAD30KP200A	200	222 – 245	5	322	10	94	243
PLAD30KP220	220	245 – 299	5	293	10	76	297
PLAD30KP220A	220	245 – 271	5	356	10	84	269
PLAD30KP250	250	278 – 308	5	403	10	74	306
PLAD30KP260A	260	289 – 320	5	419	10	71	318
PLAD30KP280A	280	311 – 345	5	451	10	66	344
PLAD30KP300A	300	333 – 369	5	483	10	62	368
PLAD30KP350A	350	389 – 431	5	564	10	53	430
PLAD30KP400A	400	444 - 492	5	644	10	46	490

Note 1: Transient Voltage Suppressors are normally selected with reverse “Stand Off Voltage” Vwm which should be equal to or greater than the dc or continuous peak operating voltage level.
Note 2: For bidirectional construction, indicate a C or CA suffix after the part number.

SYMBOLS & DEFINITIONS			
Symbol	Definition	Symbol	Definition
V_{WM}	Working Peak (Standoff) Voltage	I_{PP}	Peak Pulse Current
P_{PP}	Peak Pulse Power	V_C	Clamping Voltage
$V_{(BR)}$	Breakdown Voltage	$I_{(BR)}$	Breakdown Current for $V_{(BR)}$
I_D	Standby Current		



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Art for pocket on inside back cover

Microsemi

Microsemi Part Number (Note 2)	Reverse Stand-off Voltage V_{WM} (Note 1)	Breakdown Voltage $V_{(BR)}$		Maximum Clamping Voltage Vc @ I_{PP}	Maximum Standby Current I_D @ V_{WM}	Maximum Peak Pulse Current I_{PP} (Fig. 3)	Maximum Temperature Coefficient of V_{BR}
	Volts	$V_{(BR)}$ @ Volts	I(BR) mA	Volts	mA	A	$\alpha_{V(BR)}$ mV/ °C
PLAD30KP14	14	15.6 – 19.1	150	26.6	3000	1134	10
PLAD30KP14A	14	15.6 – 17.2	150	24.0	3000	1251	10
PLAD30KP15	15	16.7 – 20.4	5	28.6	750	1350	12
PLAD30KP15A	15	16.7 – 18.5	5	25.8	750	1164	12
PLAD30KP16	16	17.8 – 21.8	5	30.0	450	999	13
PLAD30KP16A	16	17.8 – 19.7	5	27.2	450	1101	12
PLAD30KP17	17	18.9 – 23.1	5	31.8	150	942	15
PLAD30KP17A	17	18.9 – 20.9	5	28.8	150	1041	14
PLAD30KP18	18	20.0 – 24.4	5	33.8	120	885	17
PLAD30KP18A	18	20.0 – 22.1	5	30.8	60	975	16
PLAD30KP20	20	22.2 – 27.1	5	37.6	45	798	19
PLAD30KP20A	20	22.2 – 24.5	5	34.0	45	882	18
PLAD30KP22	22	24.4 – 29.8	5	40.2	10	747	22
PLAD30KP22A	22	24.4 – 26.9	5	36.4	10	822	20
PLAD30KP24	24	26.7 – 32.6	5	44.0	10	681	24
PLAD30KP24A	24	26.7 – 29.5	5	39.8	10	753	22
PLAD30KP26	26	28.9 – 35.3	5	47.6	10	630	27
PLAD30KP26A	26	28.9 – 31.9	5	43.0	10	696	24
PLAD30KP28	28	31.1 – 38.0	5	51.6	10	582	29
PLAD30KP28A	28	31.1 – 34.4	5	46.4	10	645	26
PLAD30KP30	30	33.3 – 40.7	5	53.8	10	564	36
PLAD30KP30A	30	33.3 – 36.8	5	48.8	10	618	30
PLAD30KP33	33	36.7 – 44.9	5	59.0	10	510	37
PLAD30KP33A	33	36.7 – 40.6	5	53.3	10	564	35
PLAD30KP36	36	40.0 – 48.9	5	64.3	10	468	40
PLAD30KP36A	36	40.0 – 44.2	5	58.1	10	516	38
PLAD30KP40	40	44.4 – 54.3	5	71.4	10	420	48
PLAD30KP40A	40	44.4 – 49.1	5	64.5	10	468	44
PLAD30KP43	43	47.8 – 58.4	5	46.7	10	390	53
PLAD30KP43A	43	47.8 – 52.8	5	69.4	10	432	50
PLAD30KP45	45	50.0 – 61.1	5	80.3	10	372	54
PLAD30KP45A	45	50.0 – 55.3	5	72.7	10	414	51
PLAD30KP48	48	53.3 – 65.1	5	85.5	10	348	60
PLAD30KP48A	48	53.3 – 58.9	5	77.4	10	390	54
PLAD30KP51	51	56.7 – 69.3	5	91.1	10	330	65
PLAD30KP51A	51	56.7 – 62.7	5	82.4	10	366	58
PLAD30KP54	54	60.0 – 73.3	5	96.3	10	312	68
PLAD30KP54A	54	60.0 – 66.3	5	87.1	10	342	64
PLAD30KP58	58	64.4 – 78.7	5	103.0	10	294	75
PLAD30KP58A	58	64.4 – 71.2	5	93.6	10	318	70
PLAD30KP60	60	66.7 – 81.5	5	107.0	10	282	80
PLAD30KP60A	60	66.7 – 73.7	5	96.8	10	312	72
PLAD30KP64	64	71.1 – 86.9	5	114.0	10	264	85
PLAD30KP64A	64	71.1 – 78.6	5	103.0	10	294	75

Microsemi Part Number (Note 2)	Reverse Stand-off Voltage V_{WM} (Note 1)	Breakdown Voltage $V_{(BR)}$		Maximum Clamping Voltage Vc @ I_{PP}	Maximum Standby Current I_D @ V_{WM}	Maximum Peak Pulse Current I_{PP} (Fig. 3)	Maximum Temperature Coefficient of V_{BR}
	Volts	$V_{(BR)}$ @ Volts	I(BR) mA	Volts	mA	A	$\alpha_{V(BR)}$ mV/ °C
PLAD30KP70	70	77.8 – 95.1	5	125	10	240	93
PLAD30KP70A	70	77.8 – 86.0	5	113	10	264	84
PLAD30KP75	75	83.3 – 102.0	5	134	10	222	100
PLAD30KP75A	75	83.3 – 92.1	5	121	10	246	90
PLAD30KP78	78	86.7 – 106.0	5	139	10	216	104
PLAD30KP78A	78	86.7 – 95.8	5	126	10	240	95
PLAD30KP85	85	94.4 – 115.0	5	151	10	198	115
PLAD30KP85A	85	94.4 – 104.0	5	137	10	216	104
PLAD30KP90	90	100 – 122	5	160	10	186	120
PLAD30KP90A	90	100 – 111	5	146	10	204	109
PLAD30KP100	100	111 – 136	5	179	10	168	134
PLAD30KP100A	100	111 – 123	5	162	10	186	122
PLAD30KP110	110	122 – 149	5	196	10	156	147
PLAD30KP110A	110	122 – 135	5	177	10	168	132
PLAD30KP120	120	133 – 163	5	214	10	140	161
PLAD30KP120A	120	133 – 147	5	193	10	156	145
PLAD30KP130	130	144 – 176	5	231	10	130	174
PLAD30KP130A	130	144 – 159	5	209	10	142	157
PLAD30KP150	150	167 – 204	5	268	10	112	202
PLAD30KP150A	150	167 – 185	5	243	10	124	183
PLAD30KP160	160	178 – 218	5	287	10	104	216
PLAD30KP160A	160	178 – 197	5	259	10	116	195
PLAD30KP170	170	189 – 231	5	304	10	98	229
PLAD30KP170A	170	189 – 209	5	275	10	110	207
PLAD30KP180	180	200 – 244	5	321	10	94	242
PLAD30KP180A	180	200 – 221	5	291	10	104	219
PLAD30KP200	200	222 – 271	5	356	10	84	269
PLAD30KP200A	200	222 – 245	5	322	10	94	243
PLAD30KP220	220	245 – 299	5	293	10	76	297
PLAD30KP220A	220	245 – 271	5	356	10	84	269
PLAD30KP250	250	278 – 308	5	403	10	74	306
PLAD30KP260A	260	289 – 320	5	419	10	71	318
PLAD30KP280A	280	311 – 345	5	451	10	66	344
PLAD30KP300A	300	333 – 369	5	483	10	62	368
PLAD30KP350A	350	389 – 431	5	564	10	53	430
PLAD30KP400A	400	444 - 492	5	644	10	46	490