30KP33S,SC SERIES

30K Watts TVS Diodes



VR : 33 - 400 Volts
PPK : 30,000 Watts

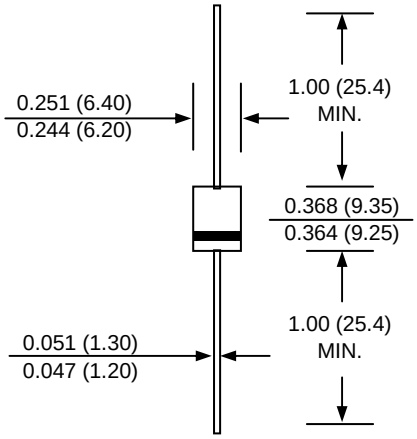
Features

- ✧ Glass passivated junction chip
- ✧ Excellent Clamping Capability
- ✧ Fast Response Time
- ✧ Low Leakage Current
- ✧ Pb / RoHS Free

Mechanical Data

- ✧ Case : molded plastic
- ✧ Epoxy : UL94V-O rate flame retardant
- ✧ Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity : Color band denotes cathode end
- ✧ Mounting position : Any
- ✧ Weight : 1.40 grams (approximate)

DO-204AR

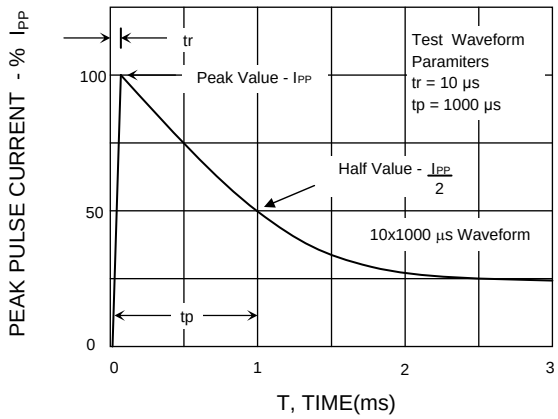


Dimensions in inches and (millimeters)

MAXIMUM RATINGS (Ta = 25 °C)

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation (10 x 1000μs, see Fig.1)	P_{PK}	30,000	W
Steady State Power Dissipation	P_D	7	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Uni-directional devices only)	I_{FSM}	250	A
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 150	°C

Fig. 1 - Pulse Wave Form



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ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Part Number (Uni-directional)	Part Number (Bi-directional)	Reverse Stand Off Voltage	Breakdown Voltage @ $I_{(BR)}$			Maximum Reverse Leakage @ V_{WM}	Maximum Clamping Voltage @ I_{PP}	Maximum Peak Pulse Current	Maximum $V_{(BR)}$ Temperature Coefficient
		V_{WM}	V_{BR} (V)		$I_{(BR)}$	I_D	V_C	I_{PP}	$\alpha_{V(BR)}$
		(V)	Min.	Max.	(mA)	(μA)	(V)	(A)	(mV/°C)
30KP33S	**30KP33SC**	33	36.7	44.9	50	5000	64.6	496	42
30KP33SA	**30KP33SCA**	33	36.7	40.6	50	5000	58.6	548	38
30KP36S	**30KP36SC**	36	40.0	48.9	50	5000	68.2	454	46
30KP36SA	**30KP36SCA**	36	40.0	44.2	50	5000	61.8	502	41
30KP40S	**30KP40SC**	40	44.4	54.3	20	1500	75.8	412	51
30KP40SA	**30KP40SCA**	40	44.4	49.1	20	1500	68.6	456	46
30KP43S	**30KP43SC**	43	47.8	58.4	10	500	79.0	380	55
30KP43SA	**30KP43SCA**	43	47.8	52.8	10	500	71.0	430	50
30KP45S	**30KP45SC**	45	50.0	61.1	5	150	80.7	372	57
30KP45SA	**30KP45SCA**	45	50.0	55.3	5	150	73.0	410	52
30KP48S	**30KP48SC**	48	53.3	65.1	5	150	85.9	350	62
30KP48SA	**30KP48SCA**	48	53.3	58.9	5	150	77.7	386	56
30KP51S	**30KP51SC**	51	56.7	69.3	5	50	91.5	328	66
30KP51SA	**30KP51SCA**	51	56.7	62.7	5	50	82.8	362	60
30KP54S	**30KP54SC**	54	60.0	73.3	5	25	96.8	310	70
30KP54SA	**30KP54SCA**	54	60.0	66.3	5	25	87.5	342	63
30KP58S	**30KP58SC**	58	64.4	78.7	5	15	104	288	76
30KP58SA	**30KP58SCA**	58	64.4	71.2	5	15	94	320	68
30KP60S	**30KP60SC**	60	66.7	81.5	5	15	107	280	78
30KP60SA	**30KP60SCA**	60	66.7	73.7	5	15	97.3	304	71
30KP64S	**30KP64SC**	64	71.1	86.9	5	10	115	260	84
30KP64SA	**30KP64SCA**	64	71.1	78.6	5	10	104	288	76
30KP70S	**30KP70SC**	70	77.8	95.1	5	10	126	238	92
30KP70SA	**30KP70SCA**	70	77.8	86.0	5	10	114	264	83
30KP75S	**30KP75SC**	75	83.3	102	5	10	135	222	100
30KP75SA	**30KP75SCA**	75	83.3	92.1	5	10	122	246	89
30KP78S	**30KP78SC**	78	86.7	106	5	10	140	214	104
30KP78SA	**30KP78SCA**	78	86.7	95.8	5	10	126	238	93
30KP85S	**30KP85SC**	85	94.4	115	5	10	152	198	113
30KP85SA	**30KP85SCA**	85	94.4	104	5	10	137	218	102
30KP90S	**30KP90SC**	90	100	122	5	10	160	188	120
30KP90SA	**30KP90SCA**	90	100	111	5	10	146	206	109
30KP100S	**30KP100SC**	100	111	136	5	10	179	168	134
30KP100SA	**30KP100SCA**	100	111	123	5	10	162	186	121
30KP110S	**30KP110SC**	110	122	149	5	10	196	154	147
30KP110SA	**30KP110SCA**	110	122	135	5	10	178	168	133
30KP120S	**30KP120SC**	120	133	163	5	10	214	140	161
30KP120SA	**30KP120SCA**	120	133	147	5	10	193	156	145
30KP130S	**30KP130SC**	130	144	176	5	10	231	130	174

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		V_{WM}	V_{BR} (V)		$I_{(BR)}$	I_D	V_C	I_{PP}	$\alpha_{V(BR)}$
		(V)	Min.	Max.	(mA)	(μA)	(V)	(A)	(mV/°C)
30KP130SA	**30KP130SCA**	130	144	159	5	10	209	142	157
30KP150S	**30KP150SC**	150	167	204	5	10	268	112	202
30KP150SA	**30KP150SCA**	150	167	185	5	10	243	124	183
30KP160S	**30KP160SC**	160	178	218	5	10	287	104	216
30KP160SA	**30KP160SCA**	160	178	197	5	10	259	116	195
30KP170S	**30KP170SC**	170	189	231	5	10	304	98	229
30KP170SA	**30KP170SCA**	170	189	209	5	10	275	110	207
30KP180S	**30KP180SC**	180	200	244	5	10	321	94	242
30KP180SA	**30KP180SCA**	180	200	221	5	10	291	104	219
30KP200S	**30KP200SC**	200	222	271	5	10	356	84	269
30KP200SA	**30KP200SCA**	200	222	245	5	10	322	94	243
30KP220S	**30KP220SC**	220	245	299	5	10	393	76	297
30KP220SA	**30KP220SCA**	220	245	271	5	10	356	84	269
30KP250SA	**30KP250SCA**	250	278	308	5	10	403	74	306
30KP260SA	**30KP260SCA**	260	289	320	5	10	419	71	318
30KP280SA	**30KP280SCA**	280	311	345	5	10	451	66	344
30KP300SA	**30KP300SCA**	300	333	369	5	10	483	62	368
30KP350SA	**30KP350SCA**	350	389	431	5	10	564	53	430
30KP400SA	**30KP400SCA**	400	444	492	5	10	644	46	490

Note:

(1) For bidirectional type having V_{WM} of 60 volts and less, the I_D limit is double.

Fig. 2 - Peak Pulse Power vs. Pulse Time

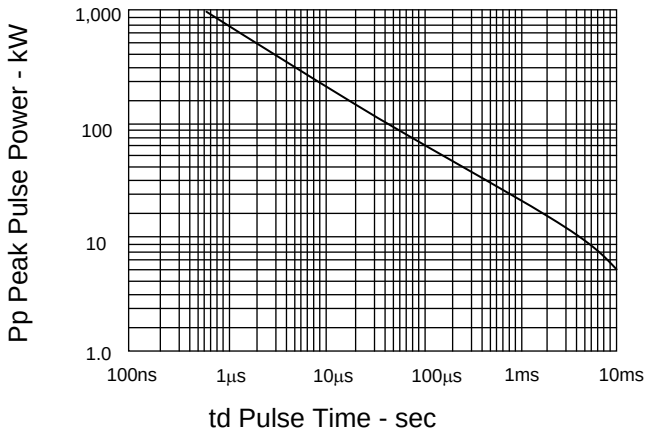


Fig. 3 - Typical Capacitance vs. Breakdown Voltage

