

400W Transient Voltage Suppressor



SMD Diodes Specialist

P4KE-G Series

Stand-off Voltage: 6.8 ~ 600V

Power Dissipation: 400 Watts

RoHS Device

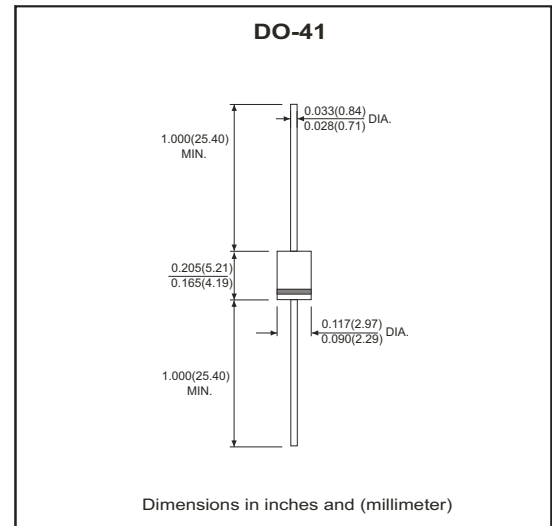


Features

- Glass passivated chip
- Low leakage
- Uni and Bidirection unit
- Excellent clamping capability
- The plastic material has UL recognition 94V-0
- Fast response time: typically less than 1.0pS from 0 volts to BV min

Mechanical Data

- Case: Molded plastic DO-41
- Polarity: By cathode band denotes unidirectional device none cathode band denoted bi-directional device
- Weight: 0.34 gram



Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Parameter	Symbol	Value	Unit
Peak power dissipation a 10/1000µs waveform (Note 1)	PPP	400	W
Peak pulse current with a 10/1000µs waveform (Note 1)	IPP	See Next Table	A
Power dissipation on infinite heatsink at TL=75°C	PD	1.0	W
Peak forward surge current, 8.3mS single half sine-wave unidirectional only(Note 2)	IFSM	40	A
Maximum instantaneous forward voltage at 25A for unidirectional only (Note 3)	VF	3.5/5.0	V
Operating junction and storage temperature range	TJ, TSTG	-55 to +150	°C

NTOES:

(1) Non-repetitive current pulse, per fig.5 and derated above TA=25 °C per fig. 1.

(2) Measured on 8.3 ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.

(3) Vf<3.5V for devices of VBR<200V and Vf<5.0V for devices of VBR>201V.

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Uni	Bi	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. Vc @I _{PPM}		Max. I _R @V _{RWM}	Uni	Bi
		(V)	(V)	(V)	(mA)	(A)@8.3ms	(V)	I _{PPM} (A)	uA		
P4KE6.8-G	P4KE6.8C-G	5.5	6.12	7.48	10	40	10.8	37.04	1000	P4KE6.8	P4KE6.8C
P4KE6.8A-G	P4KE6.8CA-G	5.8	6.46	7.14	10	40	10.5	38.10	1000	P4KE6.8A	P4KE6.8CA
P4KE7.5-G	P4KE7.5C-G	6.1	6.75	8.25	10	40	11.7	34.19	500	P4KE7.5	P4KE7.5C
P4KE7.5A-G	P4KE7.5CA-G	6.4	7.13	7.88	10	40	11.3	35.40	500	P4KE7.5A	P4KE7.5CA
P4KE8.2-G	P4KE8.2C-G	6.6	7.38	9.02	10	40	12.5	32.00	200	P4KE8.2	P4KE8.2C
P4KE8.2A-G	P4KE8.2CA-G	7.0	7.79	8.61	10	40	12.1	33.06	200	P4KE8.2A	P4KE8.2CA
P4KE9.1-G	P4KE9.1C-G	7.4	8.19	10.0	1	40	13.8	28.99	50	P4KE9.1	P4KE9.1C
P4KE9.1A-G	P4KE9.1CA-G	7.8	8.65	9.56	1	40	13.4	29.85	50	P4KE9.1	P4KE9.1CA
P4KE10-G	P4KE10C-G	8.1	9.00	11.00	1	40	15.0	26.67	10	P4KE10	P4KE10C
P4KE10A-G	P4KE10CA-G	8.6	9.50	10.50	1	40	14.5	27.59	10	P4KE10A	P4KE10CA
P4KE11-G	P4KE11C-G	8.9	9.90	12.10	1	40	16.2	24.69	5	P4KE11	P4KE11C
P4KE11A-G	P4KE11CA-G	9.4	10.45	11.55	1	40	15.6	25.64	5	P4KE11A	P4KE11CA
P4KE12-G	P4KE12C-G	9.7	10.80	13.20	1	40	17.3	23.12	5	P4KE12	P4KE12C
P4KE12A-G	P4KE12CA-G	10.2	11.40	12.60	1	40	16.7	23.95	5	P4KE12A	P4KE12CA
P4KE13-G	P4KE13C-G	10.5	11.70	14.30	1	40	19.0	21.05	5	P4KE13	P4KE13C
P4KE13A-G	P4KE13CA-G	11.1	12.35	13.65	1	40	18.2	21.98	5	P4KE13A	P4KE13CA
P4KE15-G	P4KE15C-G	12.1	13.50	16.50	1	40	22.0	18.18	5	P4KE15	P4KE15C
P4KE15A-G	P4KE15CA-G	12.8	14.25	15.75	1	40	21.2	18.87	5	P4KE15A	P4KE15CA
P4KE16-G	P4KE16C-G	12.9	14.40	17.60	1	40	23.5	17.02	5	P4KE16	P4KE16C
P4KE16A-G	P4KE16CA-G	13.6	15.20	16.90	1	40	22.5	17.78	5	P4KE16A	P4KE16CA
P4KE18-G	P4KE18C-G	14.5	16.20	19.80	1	40	26.5	15.09	5	P4KE18	P4KE18C
P4KE18A-G	P4KE18CA-G	15.3	17.10	18.90	1	40	25.2	15.87	5	P4KE18A	P4KE18CA
P4KE20-G	P4KE20C-G	16.2	18.00	22.00	1	40	29.1	13.75	5	P4KE20	P4KE20C
P4KE20A-G	P4KE20CA-G	17.1	19.00	21.00	1	40	27.7	14.44	5	P4KE20A	P4KE20CA
P4KE22-G	P4KE22C-G	17.8	19.80	24.20	1	40	31.9	12.54	5	P4KE22	P4KE22C
P4KE22A-G	P4KE22CA-G	18.8	20.90	23.10	1	40	30.6	13.07	5	P4KE22A	P4KE22CA
P4KE24-G	P4KE24C-G	19.4	21.60	26.40	1	40	34.7	11.53	5	P4KE24	P4KE24C
P4KE24A-G	P4KE24CA-G	20.5	22.80	25.20	1	40	33.2	12.05	5	P4KE24A	P4KE24CA
P4KE27-G	P4KE27C-G	21.8	24.30	29.70	1	40	39.1	10.23	5	P4KE27	P4KE27C
P4KE27A-G	P4KE27CA-G	23.1	25.65	28.35	1	40	37.5	10.67	5	P4KE27A	P4KE27CA
P4KE30-G	P4KE30C-G	24.3	27.00	33.00	1	40	43.5	9.20	5	P4KE30	P4KE30C
P4KE30A-G	P4KE30CA-G	25.6	28.50	31.50	1	40	41.4	9.66	5	P4KE30A	P4KE30CA
P4KE33-G	P4KE33C-G	26.8	29.70	36.30	1	40	47.7	8.39	5	P4KE33	P4KE33C
P4KE33A-G	P4KE33CA-G	28.2	31.35	34.65	1	40	45.7	8.75	5	P4KE33A	P4KE33CA
P4KE36-G	P4KE36C-G	29.1	32.40	39.60	1	40	52.0	7.69	5	P4KE36	P4KE36C
P4KE36A-G	P4KE36CA-G	30.8	34.20	37.80	1	40	49.9	8.02	5	P4KE36A	P4KE36CA
P4KE39-G	P4KE39C-G	31.6	35.10	42.90	1	40	56.4	7.09	5	P4KE39	P4KE39C
P4KE39A-G	P4KE39CA-G	33.3	37.05	40.95	1	40	53.9	7.42	5	P4KE39A	P4KE39CA
P4KE43-G	P4KE43C-G	34.8	38.70	47.30	1	40	61.9	6.46	5	P4KE43	P4KE43C
P4KE43A-G	P4KE43CA-G	36.8	40.85	45.15	1	40	59.3	6.75	5	P4KE43A	P4KE43CA
P4KE47-G	P4KE47C-G	38.1	42.30	51.70	1	40	67.8	5.90	5	P4KE47	P4KE47C
P4KE47A-G	P4KE47CA-G	40.2	44.65	49.35	1	40	64.8	6.17	5	P4KE47A	P4KE47CA
P4KE51-G	P4KE51C-G	41.3	45.90	56.10	1	40	73.5	5.44	5	P4KE51	P4KE51C
P4KE51A-G	P4KE51CA-G	43.6	48.45	53.55	1	40	70.1	5.71	5	P4KE51A	P4KE51CA

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Uni	Bi	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. V _c @I _{PPM}		Max. I _R @V _{RWM}	Uni	Bi
		(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I _{PPM} (A)	uA		
P4KE56-G	P4KE56C-G	45.4	50.40	61.60	1	40	10.8	80.5	1000	P4KE56	P4KE56C
P4KE56A-G	P4KE56CA-G	47.8	53.20	58.80	1	40	10.5	77.0	1000	P4KE56A	P4KE56CA
P4KE62-G	P4KE62C-G	50.2	55.80	68.20	1	40	11.7	89.0	500	P4KE62	P4KE62C
P4KE62A-G	P4KE62CA-G	53.0	58.90	65.10	1	40	11.3	85.0	500	P4KE62A	P4KE62CA
P4KE68-G	P4KE68C-G	55.1	61.20	74.80	1	40	12.5	98.0	200	P4KE68	P4KE68C
P4KE68A-G	P4KE68CA-G	58.1	64.60	74.40	1	40	12.1	92.0	200	P4KE68A	P4KE68CA
P4KE75-G	P4KE75C-G	60.7	67.50	82.50	1	40	13.8	108.0	50	P4KE75	P4KE75C
P4KE75A-G	P4KE75CA-G	64.1	71.25	78.75	1	40	13.4	103.0	50	P4KE75A	P4KE75CA
P4KE82-G	P4KE82C-G	66.4	73.80	90.20	1	40	15.0	118.0	10	P4KE82	P4KE82C
P4KE82A-G	P4KE82CA-G	70.1	77.90	86.10	1	40	14.5	113.0	10	P4KE82A	P4KE82CA
P4KE91-G	P4KE91C-G	73.7	81.90	100.10	1	40	16.2	131.0	5	P4KE91	P4KE91C
P4KE91A-G	P4KE91CA-G	77.8	86.45	95.55	1	40	15.6	125.0	5	P4KE91A	P4KE91CA
P4KE100-G	P4KE100C-G	81.0	90.00	110.00	1	40	17.3	144.0	5	P4KE100	P4KE100C
P4KE100A-G	P4KE100CA-G	85.5	95.00	105.00	1	40	16.7	137.0	5	P4KE100A	P4KE100CA
P4KE110-G	P4KE110C-G	89.2	99.00	121.00	1	40	19.0	158.0	5	P4KE110	P4KE110C
P4KE110A-G	P4KE110CA-G	94.0	104.5	115.50	1	40	18.2	152.0	5	P4KE110A	P4KE110CA
P4KE120-G	P4KE120C-G	97.2	108.00	132.00	1	40	22.0	173.0	5	P4KE120	P4KE120C
P4KE120A-G	P4KE120CA-G	102.0	114.00	126.00	1	40	21.2	165.0	5	P4KE120A	P4KE120CA
P4KE130-G	P4KE130C-G	105.0	117.00	143.00	1	40	23.5	187.0	5	P4KE130	P4KE130C
P4KE130A-G	P4KE130CA-G	111.0	123.50	136.50	1	40	22.5	179.0	5	P4KE130A	P4KE130CA
P4KE150-G	P4KE150C-G	121.0	135.00	165.00	1	40	26.5	215.0	5	P4KE150	P4KE150C
P4KE150A-G	P4KE150CA-G	128.0	142.50	157.50	1	40	25.5	207.0	5	P4KE150A	P4KE150CA
P4KE160-G	P4KE160C-G	130.0	144.00	176.00	1	40	29.1	230.0	5	P4KE160	P4KE160C
P4KE160A-G	P4KE160CA-G	136.0	152.00	168.00	1	40	27.7	219.0	5	P4KE160A	P4KE160CA
P4KE170-G	P4KE170C-G	138.0	153.00	187.00	1	40	31.9	244.0	5	P4KE170	P4KE170C
P4KE170A-G	P4KE170CA-G	145.0	161.50	178.50	1	40	30.6	234.0	5	P4KE170A	P4KE170CA
P4KE180-G	P4KE180C-G	146.0	162.00	198.00	1	40	34.7	258.0	5	P4KE180	P4KE180C
P4KE180A-G	P4KE180CA-G	154.0	171.00	189.00	1	40	33.2	246.0	5	P4KE180A	P4KE180CA
P4KE200-G	P4KE200C-G	162.0	180.00	220.00	1	40	39.1	287.0	5	P4KE200	P4KE200C
P4KE200A-G	P4KE200CA-G	171.0	190.00	210.00	1	40	37.5	274.0	5	P4KE200A	P4KE200CA
P4KE220-G	P4KE220C-G	175.0	198.00	242.00	1	40	43.5	344.0	5	P4KE220	P4KE220C
P4KE220A-G	P4KE220CA-G	185.0	209.00	231.00	1	40	41.4	328.0	5	P4KE220A	P4KE220CA
P4KE250-G	P4KE250C-G	202.0	225.00	275.00	1	40	47.4	360.0	5	P4KE250	P4KE250C
P4KE250A-G	P4KE250CA-G	214.0	237.50	262.50	1	40	45.7	344.0	5	P4KE250A	P4KE250CA
P4KE300-G	P4KE300C-G	243.0	270.00	330.00	1	40	52.0	430.0	5	P4KE300	P4KE300C
P4KE300A-G	P4KE300CA-G	256.0	285.00	315.00	1	40	49.9	414.0	5	P4KE300A	P4KE300CA
P4KE350-G	P4KE350C-G	284.2	315.00	385.00	1	40	56.4	504.0	5	P4KE350	P4KE350C
P4KE350A-G	P4KE350CA-G	299.3	332.50	367.50	1	40	53.9	482.0	5	P4KE350A	P4KE350CA
P4KE380-G	P4KE380C-G	308.6	342.00	418.00	1	40	61.9	547.2	5	P4KE380	P4KE380C
P4KE380A-G	P4KE380CA-G	324.9	361.00	399.00	1	40	59.3	524.4	5	P4KE380A	P4KE380CA
P4KE400-G	P4KE400C-G	324.8	360.00	440.00	1	40	67.8	576.0	5	P4KE400	P4KE400C
P4KE400A-G	P4KE400CA-G	342.0	380.00	420.00	1	40	64.8	552.0	5	P4KE400A	P4KE400CA
P4KE440-G	P4KE440C-G	357.3	396.00	484.00	1	40	73.5	633.6	5	P4KE440	P4KE440C
P4KE440A-G	P4KE440CA-G	376.2	418.00	462.00	1	40	70.1	607.2	5	P4KE440A	P4KE440CA

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Uni	Bi	V _{RWM}	V _{BR} Min.	V _{BR} Max.	I _T	I _{FSM}	Max. V _C @I _{PPM}		Max. I _R @V _{RWM}	Uni	Bi
		(V)	(V)	(V)	(mA)	(A)@8.3mS	(V)	I _{PPM} (A)	uA		
P4KE500-G	P4KE500C-G	406.0	450.00	550.00	1	40	720.0	0.56	5	P4KE500	P4KE500C
P4KE500A-G	P4KE500CA-G	427.5	475.00	525.00	1	40	690.0	0.58	5	P4KE500A	P4KE500CA
P4KE520-G	P4KE520C-G	422.2	468.00	572.00	1	40	748.8	0.53	5	P4KE520	P4KE520C
P4KE520A-G	P4KE520CA-G	444.6	494.00	546.00	1	40	717.6	0.56	5	P4KE520A	P4KE520CA
P4KE550-G	P4KE550C-G	444.6	495.00	605.00	1	40	792.0	0.51	5	P4KE550	P4KE550C
P4KE550A-G	P4KE550CA-G	470.3	522.50	577.50	1	40	759.0	0.53	5	P4KE550A	P4KE550CA
P4KE600-G	P4KE600C-G	487.2	540.00	660.00	1	40	864.0	0.46	5	P4KE600	P4KE600C
P4KE600A-G	P4KE600CA-G	513.0	570.00	630.00	1	40	828.0	0.48	5	P4KE600A	P4KE600CA

NOTES:

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
3. For Bi-Directional devices having V_R of 10 Volts and under, the I_R Limit is double

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RATING AND CHARACTERISTIC CURVES (P4KE-G Series)

Fig.1 Pulse Derating Curve

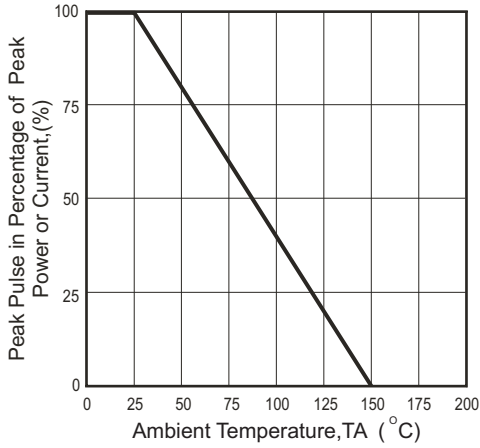


Fig.2 Typical Reverse Characteristics

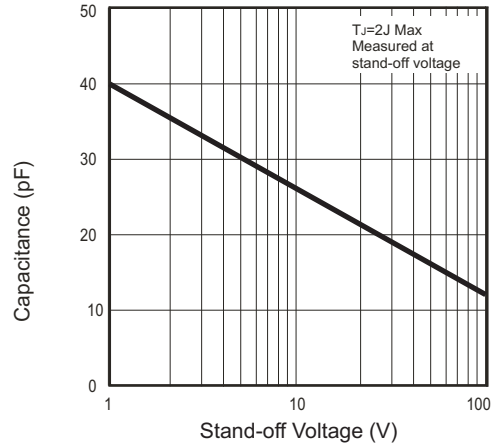


Fig.3 Steady State Power Derating Curve

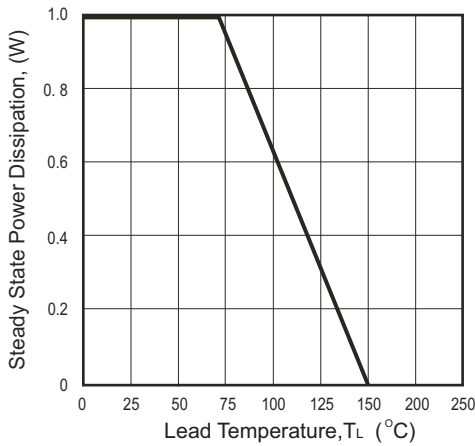


Fig.4 Peak Pulse Power Rating Curve

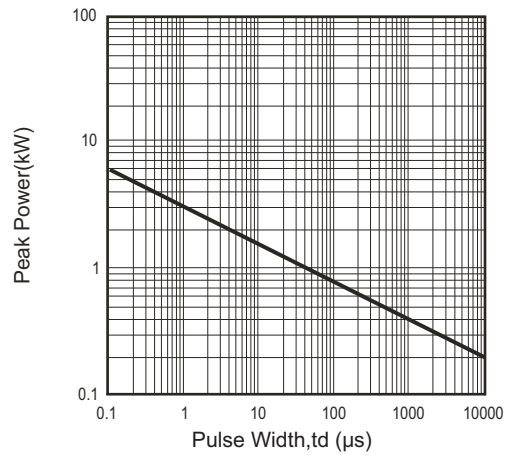


Fig.5 Pulse Waveform

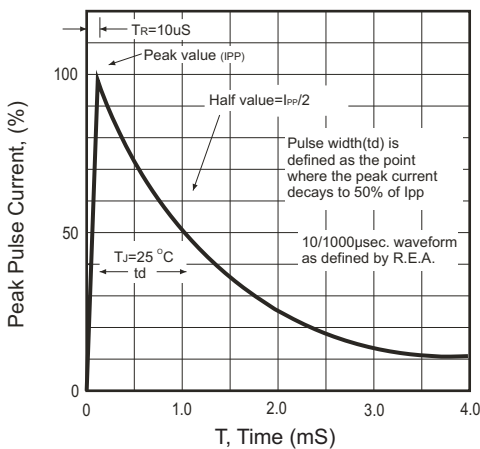
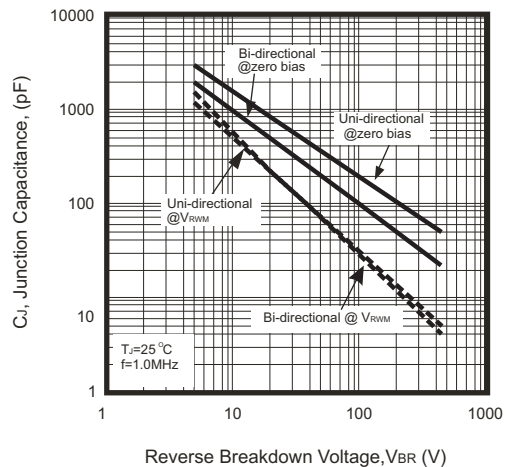
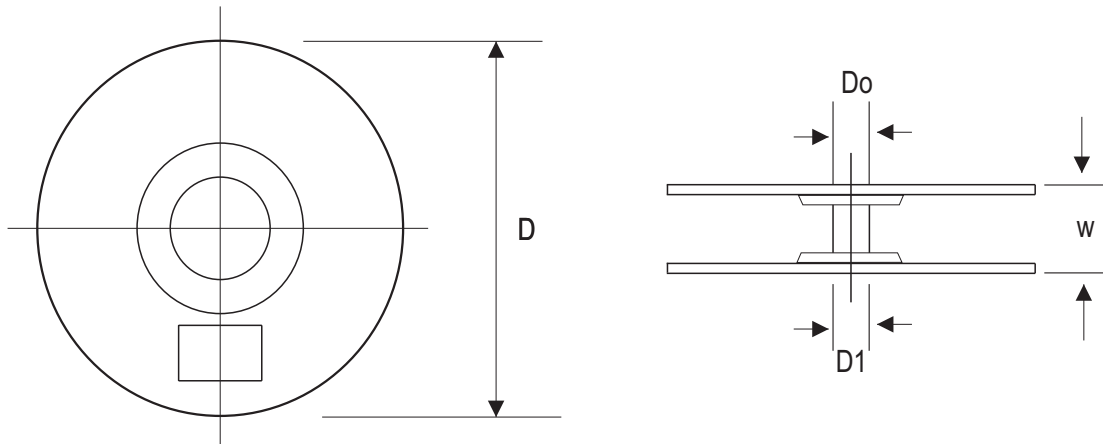
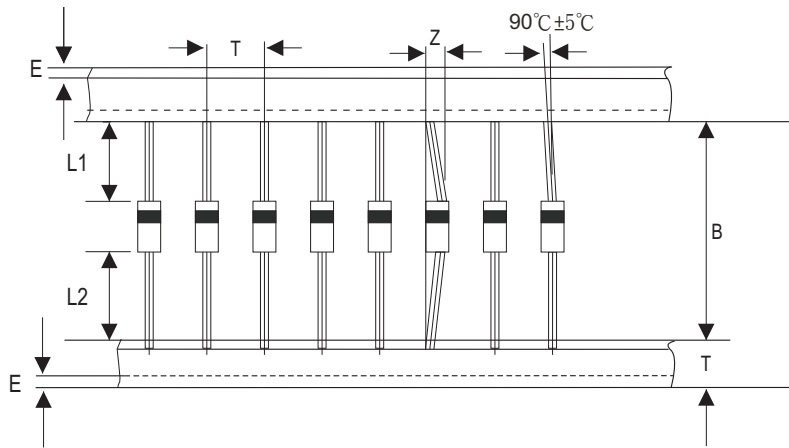


Fig.6 Typical Junction Capacitance



Taping Specification For Axial Lead Diodes



DO-41	SYMBOL	A	B	Z	T	E	L1-L2	D
	(mm)	5.00 ± 0.5	52.0 ± 0.5	1.2 (max)	6.0 ± 0.4	3 (max)	1.0 (max)	330
	(inch)	0.197 ± 0.020	2.047 ± 0.020	0.047 (max)	0.236 ± 0.016	0.118 (max)	0.039 (max)	13

DO-41	SYMBOL	D1	Do	W			
	(mm)	85.7 ± 0.3	16.6 ± 0.4	72.0 ± 0.3			
	(inch)	3.374 ± 0.012	0.654 ± 0.016	2.835 ± 0.012			

Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
DO-41	5000	13