

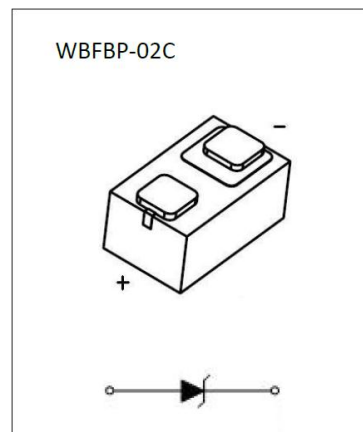


AD-DW52C*LED02 series Plastic-Encapsulated Diode

AD-DW52C*LED02 series zener diode

FEATURES

- Ultra-small leadless surface mount package
- Ideally suited for automated assembly processes



MAXIMUM RATINGS (T_j = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward voltage @ I _F = 10mA	V _F ¹⁾	0.9	V
Power dissipation	P _D	100	mW
Thermal resistance from junction to ambient	R _{θJA}	1250	°C/W
Operating junction and storage temperature range	T _j , T _{stg}	-55 ~ 150	°C

ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless otherwise specified)

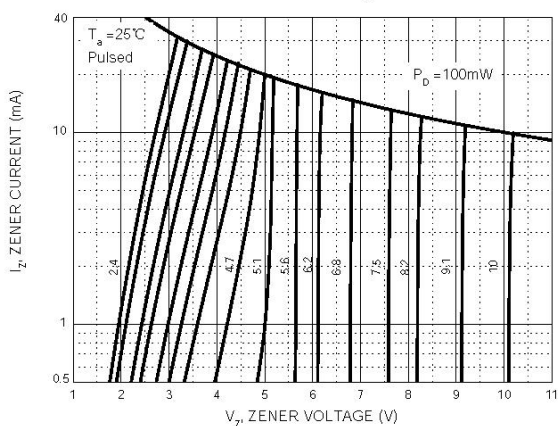
Type number	Marking	Zener voltage range ¹⁾				Maximum Zener impedance ²⁾				Maximum reverse current		Temperature coefficient of Zener voltage @ $I_{ZT} = 5\text{mA}$ (mV/°C)		Test current
		$V_z @ I_{ZT}$ (V)			I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω)	$Z_{ZK} @ I_{ZK}$ (Ω)	I_{ZK} (mA)	I_r (μA)	V_r (V)	I_{ZTC} (mA)	Min	Max	
		Min	Norm	Max										
AD-DW52C2V4LED02	$\bar{W}X$	2.2	2.4	2.6	5	100	600	1.0	50	1.0	-3.5	0	5	
AD-DW52C2V7LED02	$\bar{W}1$	2.5	2.7	2.9	5	100	600	1.0	20	1.0	-3.5	0	5	
AD-DW52C3V0LED02	$\bar{W}2$	2.8	3.0	3.2	5	95	600	1.0	10	1.0	-3.5	0	5	
AD-DW52C3V3LED02	$\bar{W}3$	3.1	3.3	3.5	5	95	600	1.0	5	1.0	-3.5	0	5	
AD-DW52C3V6LED02	$\bar{W}4$	3.4	3.6	3.8	5	90	600	1.0	5	1.0	-3.5	0	5	
AD-DW52C3V9LED02	$\bar{W}5$	3.7	3.9	4.1	5	90	600	1.0	3	1.0	-3.5	0	5	
AD-DW52C4V3LED02	$\bar{W}6$	4.0	4.3	4.6	5	90	600	1.0	3	1.0	-3.5	0	5	
AD-DW52C4V7LED02	$\bar{W}7$	4.4	4.7	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5	
AD-DW52C5V1LED02	$\bar{9}Y$	4.8	5.1	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5	
AD-DW52C5V6LED02	$\bar{9}A$	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5	
AD-DW52C6V2LED02	$\bar{9}B$	5.8	6.2	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5	
AD-DW52C6V8LED02	$\bar{9}C$	6.4	6.8	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5	
AD-DW52C7V5LED02	$\bar{9}D$	7.0	7.5	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5	
AD-DW52C8V2LED02	$\bar{9}E$	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5	
AD-DW52C9V1LED02	$\bar{9}F$	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5	
AD-DW52C10LED02	$\bar{9}G$	9.4	10	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5	
AD-DW52C11LED02	$\bar{9}H$	10.4	11	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5	
AD-DW52C12LED02	$\bar{9}J$	11.4	12	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5	
AD-DW52C13LED02	$\bar{9}K$	12.4	13	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5	
AD-DW52C15LED02	$\bar{9}L$	13.8	15	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5	
AD-DW52C16LED02	$\bar{9}M$	15.3	16	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5	
AD-DW52C18LED02	$\bar{9}N$	16.8	18	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5	
AD-DW52C20LED02	$\bar{9}P$	18.8	20	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5	
AD-DW52C22LED02	$\bar{9}R$	20.8	22	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5	
AD-DW52C24LED02	$\bar{9}S$	22.8	24	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5	
AD-DW52C27LED02	$\bar{9}T$	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2	
AD-DW52C30LED02	$\bar{9}U$	28.0	30	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2	
AD-DW52C33LED02	$\bar{9}V$	31.0	33	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2	
AD-DW52C36LED02	$\bar{9}W$	34.0	36	38.0	2	90	350	0.5	0.1	25.2	36.5	45.5	5	
AD-DW52C39LED02	$\bar{9}X$	37.0	39	41.0	2	130	350	0.5	0.1	27.3	36.8	49.8	5	
AD-DW52C43LED02	$\bar{9}Z$	40.0	43	46.0	5	100	700	1.0	0.1	32.0	10.0	12.0	5	

1) Short duration test pulse used to minimize self-heating effect.

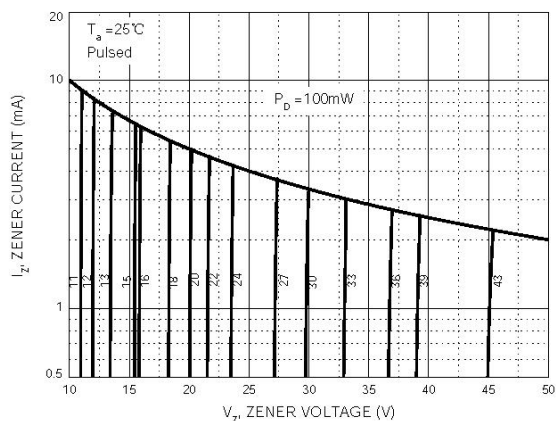
2) $f = 1\text{MHz}$.

TYPICAL CHARACTERISTICS

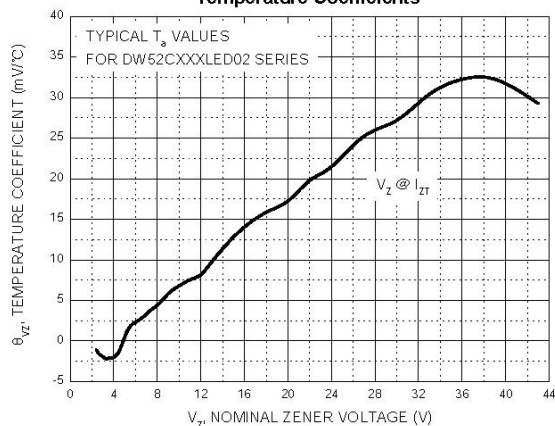
Zener Characteristics (V_z Up to 10 V)



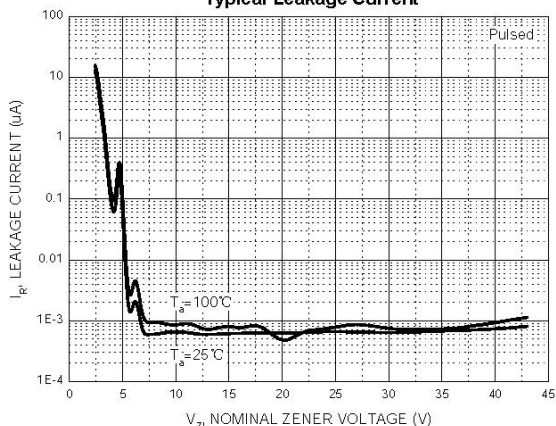
Zener Characteristics (11 V to 43 V)



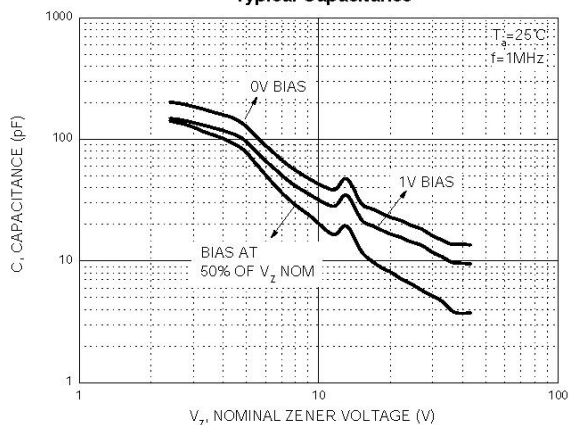
Temperature Coefficients



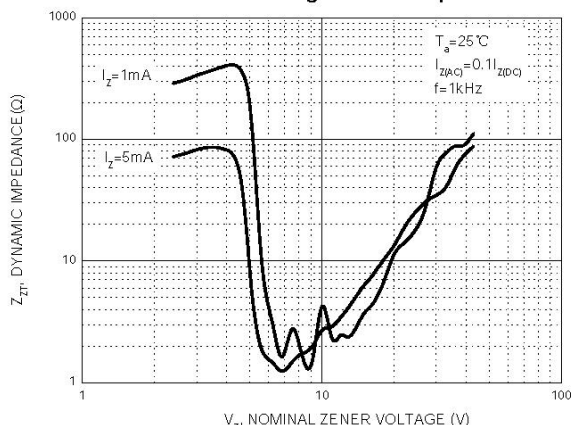
Typical Leakage Current



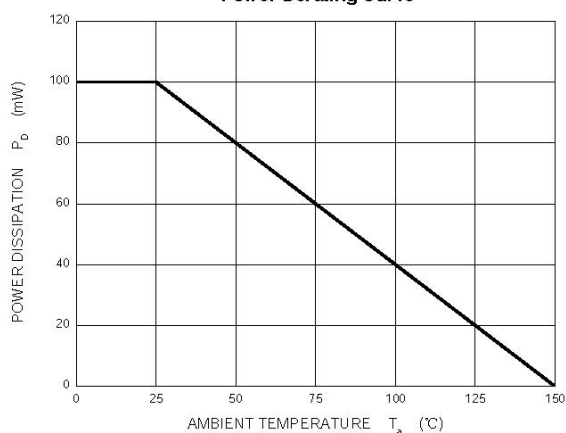
Typical Capacitance



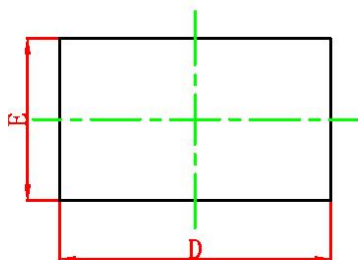
Effect of Zener Voltage on Zener Impedance



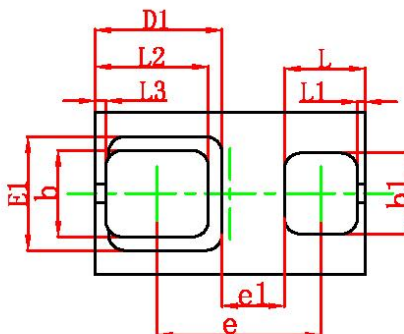
Power Derating Curve



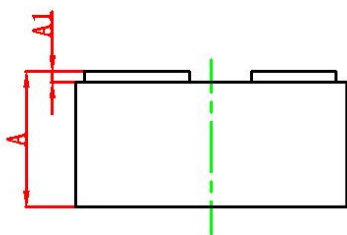
WBFBP-02C PACKAGE OUTLINE DIMENSIONS



TOP VIEW



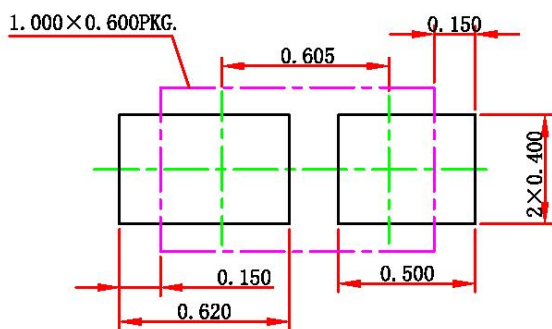
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.100	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.470REF.		0.019REF.	
E1	0.420REF.		0.017REF.	
b	0.270	0.370	0.011	0.015
b1	0.250	0.350	0.010	0.014
e	0.555	0.655	0.022	0.026
e1	0.230REF.		0.009REF.	
L	0.250	0.350	0.010	0.014
L1	0.030REF.		0.001REF.	
L2	0.370	0.470	0.015	0.019
L3	0.040REF.		0.002REF.	

WBFBP-02C SUGGESTED PAD LAYOUT

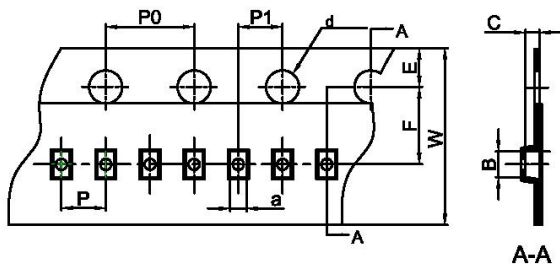


Note:

1. Controlling dimension in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purpose only.

WBFBP-02C TAPE AND REEL

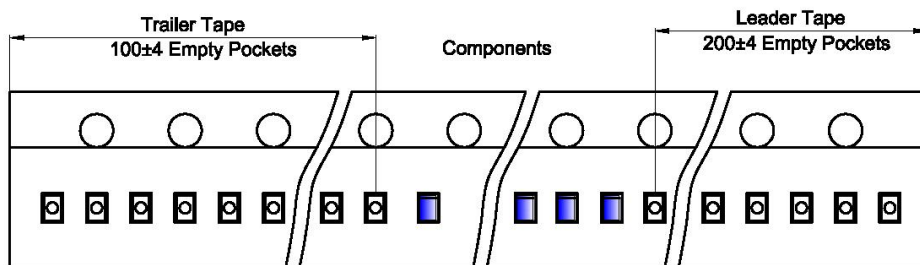
DFN/FBP(1.0×0.6) Embossed Carrier Tape



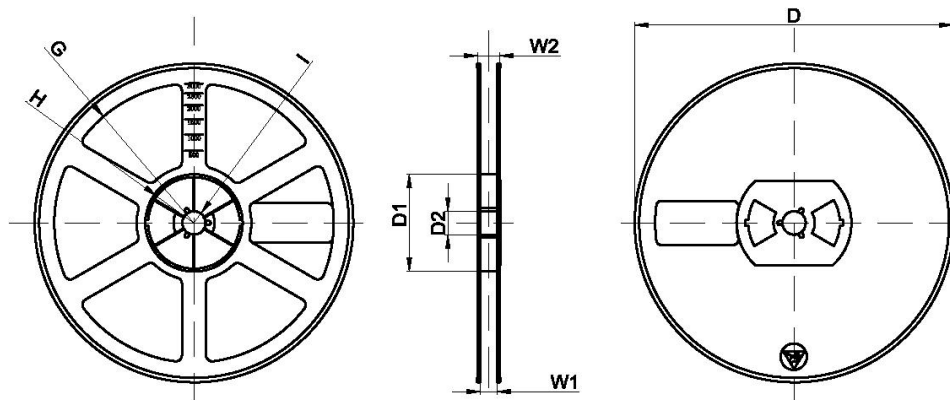
Packaging Description:
DFN/FBP(1.0×0.6) parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 10,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
DFN/FBP(1.0×0.6)	0.66	1.15	0.66	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

DFN/FBP(1.0×0.6) Tape Leader and Trailer



DFN/FBP(1.0×0.6) Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
10000 pcs	7 inch	150,000 pcs	203×203×195	600,000 pcs	438×438×220	

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