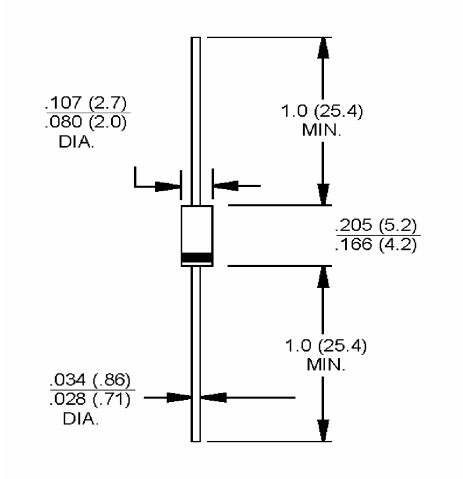
BZX85C SERIES

1.3 Watts Zener Diode



DO-41



Dimensions in inches and (millimeters)

Features

- ✧ Silicon Planar Power Zener Diodes
- ✧ For use in stabilizing and clipping circuits with high power rating
- ✧ The Zener voltages are graded according to the international E24 standard. Replace suffix "C"

Mechanical Data

- ✧ Case: Molded plastic DO-41
- ✧ Polarity: Color band denotes cathode end
- ✧ Mounting position: Any
- ✧ Weight: 0.35 grams (approx.)

Maximum Ratings and Electrical Characteristics

Rating at 25°Cambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation (Note 1)	Pd	1.3	W
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	130	°C /W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 175	°C

Notes: 1. Measured with pulses tp=5ms

2. Valid Provided that Lead are Kept at Ambient Temperature at a distance of 10 mm from case..

3. f = 1KHz.

BZX85C SERIES

1.3 Watts Zener Diode

RATINGS AND CHARACTERISTIC CURVES (BZX85C SERIES)

FIG.1- PULSE THERMAL RESISTANCE VS PULSE DURATION

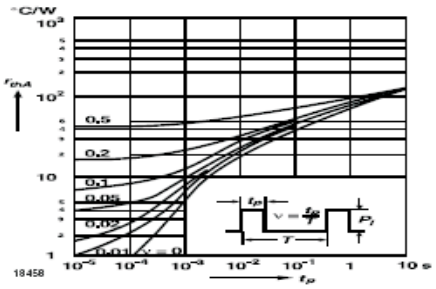


FIG.2- DYNAMIC RESISTANCE VS ZENER CURRENT

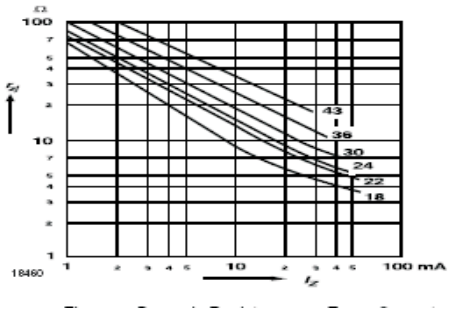


FIG.3- DYNAMIC RESISTANCE VS ZENER CURRENT

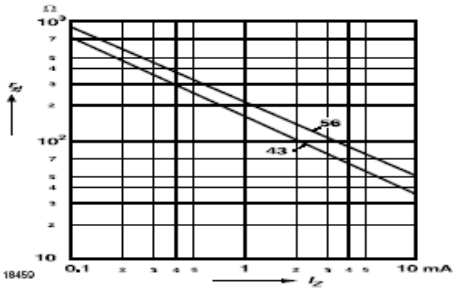


FIG.4- THERMAL RESISTANCE VS LEAD LENGTH

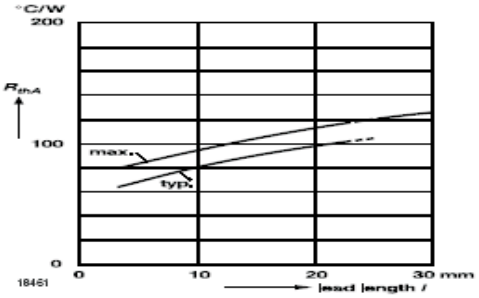


FIG.5- ADMISSIBLE POWER DISSIPATION VS AMBIENT TEMPERATURE

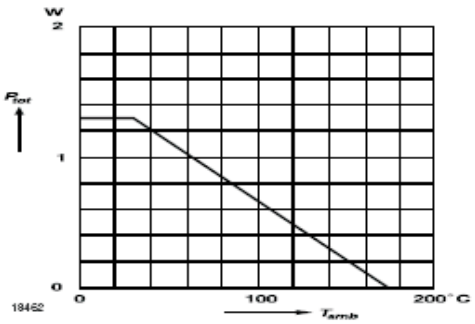
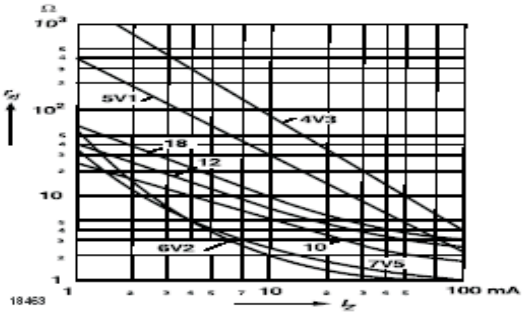


FIG.6- DYNAMIC RESISTANCE VS ZENER CURRENT



RATINGS AND CHARACTERISTIC CURVES (BZX85C SERIES)

FIG.7- BREAKDOWN CHARACTERISTICS

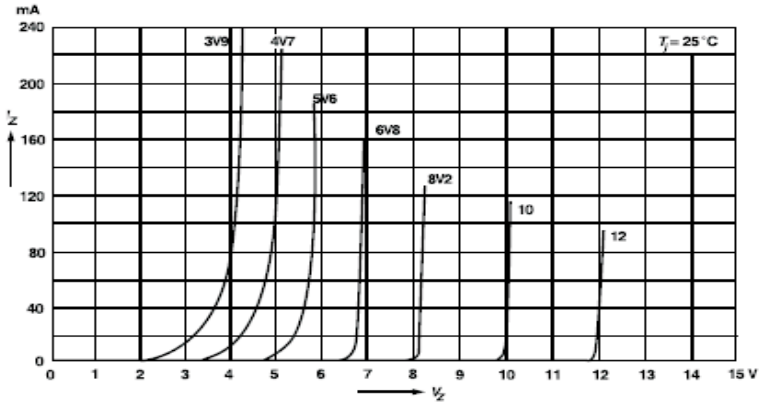
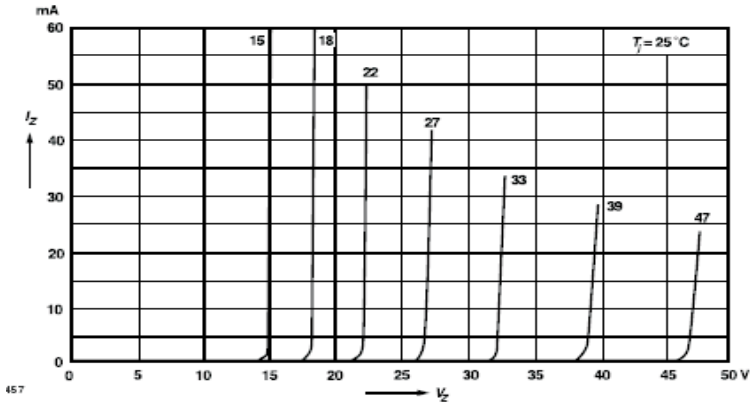


FIG.8- BREAKDOWN CHARACTERISTICS



BZX85C SERIES

1.3 Watts Zener Diode

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device	Zener Voltage Range (Note 1)		Dynamic Resistance				Temperature Coefficient of Zener Voltage		Reverse Leakage Current		Admissible Zener Current (Note 2)
	V_Z @ I_{ZT}		f_{ZT}	I_{ZT}	f_{ZT}	I_{ZK}	V_Z @ I_Z= I_{ZT}				
	V		(Note 3)		(Note 3)		% /°C		I_R	VR	I_Z
	Min	Max	Ohm	mA	Ohms	mA	Min	Max	uA	V	mA
BZX85C2V7	2.5	2.9	<20	80	<400	1	-0.08	-0.05	<150	1.0	360
BZX85C3V0	2.8	3.2	<20	80	<400	1	-0.08	-0.05	<100	1.0	330
BZX85C3V3	3.1	3.5	<20	80	<400	1	-0.08	-0.05	<40	1.0	300
BZX85C3V6	3.4	3.8	<20	60	<500	1	-0.08	-0.05	<20	1.0	290
BZX85C3V9	3.7	4.1	<15	60	<500	1	-0.07	-0.02	<10	1.0	280
BZX85C4V3	4	4.6	<13	50	<500	1	-0.05	0.01	<3	1.0	250
BZX85C4V7	4.4	5.0	<13	45	<600	1	-0.03	0.04	<3	1.0	215.0
BZX85C5V1	4.8	5.4	<10	45	<500	1	-0.01	0.04	<1	1.5	200.0
BZX85C5V6	5.2	6	<7	45	<400	1	0	0.045	<1	2.0	190.0
BZX85C6V2	5.8	6.6	<4	35	<300	1	0.01	0.055	<1	3.0	170.0
BZX85C6V8	6.4	7.2	<3.5	35	<300	1	0.015	0.06	<1	4.0	155.0
BZX85C7V5	7	7.9	<3	35	<200	0.5	0.02	0.065	<1	4.5	140.0
BZX85C8V2	7.7	8.7	<5	25	<200	0.5	0.03	0.07	<1	6.2	130.0
BZX85C9V1	8.5	9.6	<5	25	<200	0.5	0.035	0.075	<1	6.8	120.0
BZX85C10	9.4	10.6	<7	25	<200	0.5	0.04	0.08	<0.5	7.5	105.0
BZX85C11	10.4	11.6	<8	20	<300	0.5	0.045	0.08	<0.5	8.2	97.0
BZX85C12	11.4	12.7	<9	20	<350	0.5	0.045	0.085	<0.5	9.1	88.0
BZX85C13	12.4	14.1	<10	20	<400	0.5	0.05	0.085	<0.5	10	79.0
BZX85C15	13.8	15.6	<15	15	<500	0.5	0.055	0.09	<0.5	11	71.0
BZX85C16	15.3	17.1	<15	15	<500	0.5	0.055	0.09	<0.5	12	66.0
BZX85C18	16.8	19.1	<20	15	<500	0.5	0.06	0.09	<0.5	13	62.0
BZX85C20	18.8	21.2	<24	10	<600	0.5	0.06	0.09	<0.5	15	56.0
BZX85C22	20.8	23.3	<25	10	<600	0.5	0.06	0.095	<0.5	16	52.0
BZX85C24	22.8	25.6	<25	10	<600	0.5	0.06	0.095	<0.5	18	47.0
BZX85C27	25.1	28.9	<30	8	<750	0.25	0.06	0.095	<0.5	20	41.0
BZX85C30	28	32	<30	8	<1000	0.25	0.06	0.095	<0.5	22	36.0
BZX85C33	31	35	<35	8	<1000	0.25	0.06	0.095	<0.5	24	33.0
BZX85C36	34	38	<40	8	<1000	0.25	0.06	0.095	<0.5	27	30.0
BZX85C39	37	41	<50	6	<1000	0.25	0.06	0.095	<0.5	30	28.0
BZX85C43	40	46	<50	6	<1000	0.25	0.06	0.095	<0.5	33	26.0
BZX85C47	44	50	<90	4	<1500	0.25	0.06	0.095	<0.5	36	23.0
BZX85C51	48	54	<115	4	<1500	0.25	0.06	0.095	<0.5	39	21.0
BZX85C56	52	60	<120	4	<2000	0.25	0.06	0.095	<0.5	43	19.0

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

2. Tested with pulses, 300us pulse width, period = 5ms.

3. f = 1KHz.

BZX85C SERIES

1.3 Watts Zener Diode

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device	Zener Voltage Range (Note 1)		Dynamic Resistance				Temperature Coefficient of Zener Voltage		Reverse Leakage Current		Admissible Zener Current (Note 2)
	V_Z @ I_{ZT}		f_{ZT}	I_{ZT}	f_{ZT}	I_{ZK}	V_Z @ I_Z= I_{ZT}				
	V		(Note 3)		(Note 3)		% /°C		I_R	VR	I_Z
	Min	Max	Ohm	mA	Ohms	mA	Min	Max	uA	V	mA
BZX85C62	58	66	<125	4.0	<2000	0.25	0.06	0.095	<0.5	47	16
BZX85C68	64	72	<130	4.0	<2000	0.25	0.055	0.095	<0.5	51	15
BZX85C75	70	80	<135	4.0	<2000	0.25	0.055	0.095	<0.5	56	14
BZX85C82	77	87	<200	2.7	<3000	0.25	0.055	0.095	<0.5	62	12
BZX85C91	85	96	<250	2.7	<3000	0.25	0.055	0.095	<0.5	68	10
BZX85C100	96	106	<350	2.7	<3000	0.25	0.055	0.095	<0.5	75	9.4
BZX85C110	104	116	<450	2.7	<4000	0.25	0.055	0.095	<0.5	82	8.6
BZX85C120	114	127	<550	2.0	<4500	0.25	0.055	0.095	<0.5	91	7.8
BZX85C130	124	141	<700	2.0	<5000	0.25	0.055	0.095	<0.5	100	7.0
BZX85C150	138	156	<1000	2.0	<6000	0.25	0.055	0.095	<0.5	110	6.4
BZX85C160	153	171	<1100	1.5	<6500	0.25	0.055	0.095	<0.5	120	5.8
BZX85C180	168	191	<1200	1.5	<7000	0.25	0.055	0.095	<0.5	130	5.2
BZX85C200	188	212	<1500	1.5	<8000	0.25	0.055	0.095	<0.5	150	4.7

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

2. Tested with pulses, 300us pulse width, period = 5ms.

3. f = 1KHz.