

**POWER DISCRETES**
**Description**

Quick reference data

$$V_R = 6.2 - 200V$$

$$I_z(\text{MAX}) = 7.2\text{mA} - 230\text{mA}$$

$$Z_z = 4\Omega - 1500\Omega$$

$$I_R = 0.05\mu\text{A} - 10\mu\text{A}$$

**Features**

- ◆ Low dynamic impedance
- ◆ Hermetically sealed.
- ◆ 1.5 Watt applications
- ◆ Low reverse leakage currents
- ◆ Small package
- ◆ Thermal Resistance to end cap  $R_{\theta\text{JEC}} = 18 \text{ C/W}$

**Electrical Specifications**

Electrical specifications @  $T_A = 25^\circ\text{C}$  unless otherwise specified.

These products are qualified to MIL-PRF-19500/406.  
 They can be supplied fully released as JAN,  
 JANTX, JANTXV and JANS versions.

Device Types	$V_z$ Nom	$V_z$ Min	$V_z$ Max	$I_z$ Test Current $T_A = +25^\circ\text{C}$	$Z_z$ Imped.	$Z_K$ Knee Imped.	$I_z$ Max DC Current	$V_z$ (reg) Voltage Reg.	$I_{z\text{SM}}$ @ $T_A = +25^\circ\text{C}$	$V_R$ Reverse Voltage	$I_R$ Reverse Current DC	$\alpha$ VZ Temp. Coeff.	$I_{zK}$ Test Current	$I_r$ Reverse Current DC $T_A = 150\text{C}$
	V	V	V	mA	$\Omega$	$\Omega$	mA	V	A	V	$\mu\text{A}$	%/°C	mA	$\mu\text{A}$
1N4460US	6.2	5.89	6.51	40	4	200	230	0.35	2.3	3.72	10	0.050	1.0	50
1N4461US	6.8	6.46	7.14	37	2.5	200	210	0.30	2.1	4.08	5	0.057	1.0	20
1N4462US	7.5	7.13	7.87	34	2.5	400	191	0.35	1.9	4.50	1	0.061	0.5	10
1N4463US	8.2	7.79	8.61	31	3.0	400	174	0.40	1.7	4.92	0.5	0.065	0.5	5
1N4464US	9.1	8.65	9.55	28	4.0	500	157	0.45	1.6	5.46	0.3	0.068	0.5	3
1N4465US	10.0	9.50	10.5	25	5.0	500	143	0.50	1.4	8.0	0.3	0.071	0.25	3
1N4466US	11.0	10.45	11.55	23	6.0	550	130	0.55	1.3	8.8	0.3	0.073	0.25	2
1N4467US	12.0	11.40	12.6	21	7.0	550	119	0.60	1.2	9.6	0.2	0.076	0.25	2
1N4468US	13.0	12.35	13.65	19	8.0	550	110	0.65	1.1	10.4	0.05	0.079	0.25	2
1N4469US	15.0	14.25	15.75	17	9.0	600	95	0.75	0.95	12.0	0.05	0.082	0.25	2
1N4470US	16.0	15.20	16.8	15.5	10.0	600	90	0.80	0.90	12.8	0.05	0.083	0.25	2
1N4471US	18.0	17.10	18.9	14	11.0	650	79	0.83	0.79	14.4	0.05	0.085	0.25	2
1N4472US	20.0	19.0	21.0	12.5	12.0	650	71	0.95	0.71	16.0	0.05	0.086	0.25	2
1N4473US	22.0	20.9	23.10	11.5	14.0	650	65	1.0	0.65	17.6	0.05	0.087	0.25	2
1N4474US	24.0	22.8	25.2	10.5	16.0	700	60	1.1	0.60	19.2	0.05	0.088	0.25	2
1N4475US	27.0	25.7	28.3	9.5	18.0	700	53	1.3	0.53	21.6	0.05	0.090	0.25	2
1N4476US	30.0	28.5	31.5	8.5	20.0	750	48	1.4	0.48	24.0	0.05	0.091	0.25	2

## POWER DISCRETES

### Electrical Specifications (Cont.)

Electrical specifications @  $T_A = 25^\circ\text{C}$  unless otherwise specified.

Device Types	$V_Z$ Nom	$V_Z$ Min	$V_Z$ Max	$I_Z$ Test Current $T_A = +25^\circ\text{C}$	$Z_Z$ Imped.	$Z_K$ Knee Imped.	$I_Z$ Max DC Current	$V_Z$ (reg) Voltage Reg.	$I_{ZSM}$ @ $T_A = +25^\circ\text{C}$	$V_R$ Reverse Voltage	$I_R$ Reverse Current DC	$\alpha$ VZ Temp. Coeff.	$I_{ZK}$ Test Current	$I_R$ Reverse Current DC $T_A = +150^\circ\text{C}$
	V	V	V	mA	$\Omega$	$\Omega$	mA	V	A	V	$\mu\text{A}$	$\%/^\circ\text{C}$	mA	$\mu\text{A}$
1N4477US	33	31.4	34.6	7.5	25	800	43	1.5	0.43	26.4	0.05	0.092	0.25	2
1N4478US	36	34.2	37.8	7.0	27	850	40	1.7	0.4	28.8	0.05	0.093	0.25	2
1N4479US	39	37.1	40.9	6.5	30	900	37	1.8	0.37	31.2	0.05	0.094	0.25	2
1N4480US	43	40.9	45.1	6.0	40	950	33	1.9	0.33	34.4	0.05	0.095	0.25	2
1N4481US	47	44.7	49.3	5.5	50	1000	30	2.1	0.30	37.6	0.05	0.095	0.25	2
1N4482US	51	48.5	53.5	5.0	60	1100	28	2.3	0.28	40.8	0.05	0.096	0.25	2
1N4483US	56	53.2	58.8	4.5	70	1300	26	2.5	0.26	44.8	0.25	0.096	0.25	10
1N4484US	62	58.9	65.1	4.0	80	1500	23	2.7	0.23	49.6	0.25	0.097	0.25	10
1N4485US	68	64.6	71.4	3.7	100	1700	21	3.0	0.21	54.4	0.25	0.097	0.25	10
1N4486US	75	71.3	78.7	3.3	130	2000	19	3.3	0.19	60.0	0.25	0.098	0.25	10
1N4487US	82	77.9	86.1	3.0	160	2500	17	3.6	0.17	65.6	0.25	0.098	0.25	10
1N4488US	91	86.5	95.5	2.8	200	3000	16	4.0	0.16	72.8	0.25	0.099	0.25	10
1N4489US	100	95.0	105.0	2.5	250	3100	14	4.4	0.14	80.0	0.25	0.1	0.25	10
1N4490US	110	104.5	115.5	2.3	300	4000	13	5.0	0.13	88.0	0.25	0.1	0.25	10
1N4491US	120	114.0	126.0	2.0	400	4500	12	5.5	0.12	96.0	0.25	0.1	0.25	10
1N4492US	130	123.5	136.5	1.9	500	5000	11	6.0	0.11	104.0	0.25	0.1	0.25	10
1N4493US	150	142.5	157.5	1.7	700	6000	9.5	7.0	0.095	120	0.25	0.1	0.25	10
1N4494US	160	152	168	1.6	1000	6500	8.9	8.0	0.089	128	0.25	0.1	0.25	10
1N4495US	180	171	189	1.4	1300	7000	7.9	10.0	0.079	144	0.25	0.1	0.25	10
1N4496US	200	190	210	1.2	1500	8000	7.2	12.0	0.072	160	0.25	0.1	0.25	10

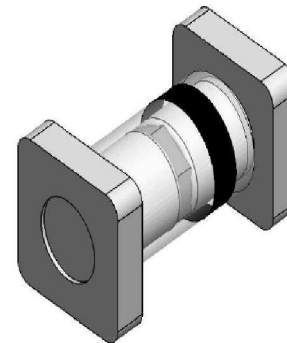
**Notes:**

- (1) Operating Temperature:  $-55^\circ\text{C}$  to  $175^\circ\text{C}$ .
- (2) Storage Temperature:  $-65^\circ\text{C}$  to  $175^\circ\text{C}$ .

## POWER DISCRETES

### Ordering Information

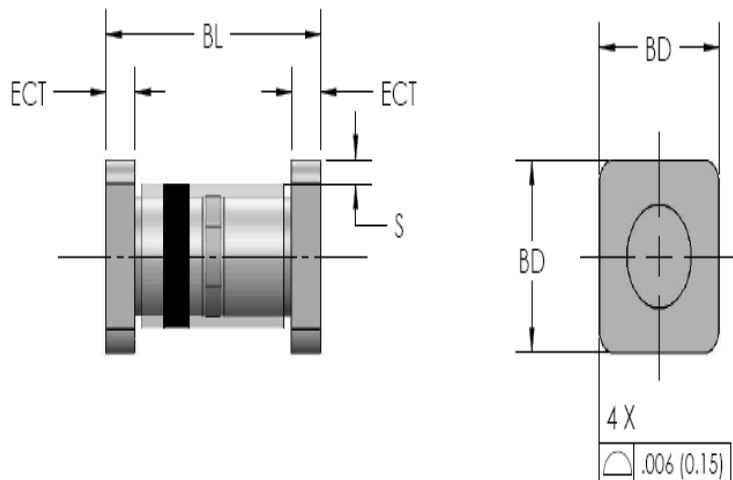
Part Number	Description
1N4460US THRU 1N4496US	Surface Mount <sup>(1)</sup>



Note:

(1) Available in bulk or tape and reel packaging. Please consult factory for quantities.

### Outline Drawing



Dimensions					
DIM <sup>N</sup>	Inches		Millimeters		Note
	MIN	MAX	MIN	MAX	
BL	0.168	0.200	4.28	5.08	-
ECT	0.019	0.028	0.48	0.71	-
S	0.003			0.08	-
BD	0.091	0.103	2.31	2.62	-

### Contact Information

Semtech Corporation  
 Power Discrettes Products Division  
 200 Flynn Road, Camarillo, CA 93012  
 Phone: (805)498-2111 FAX (805)498-3804

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