



## **Tamura Corporation of America**

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# **SALES TOOLS**

## **SB SERIES SMALL POWER TRANSFORMER WITH DC CIRCUITS**

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DATE: DECEMBER 04, 2002.

TAMURA QUALITY CIRCLES THE ELECTRON WORLD

SB SERIES SMALL POWER TRANSFORMER

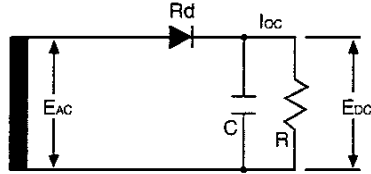
Part Number	VA	Parallel		Half-Wave Rectification		Bridge Full-Wave Rectification		(Series or CT)		Half-Wave Rectification		CT Full-Wave Rectification		Bridge Full-Wave Rectification	
		V AC	mA	V DC	mA	V DC	mA	V AC	mA	V DC	mA	V DC	mA	V DC	mA
SB2812-1204	1.2	2	600	1.5	261	1.18	364	4	300	3.5	130	1.76	261	3.53	182
SB2816-1604	1.6	2	800	1.5	348	1.18	485	4	400	3.5	174	1.76	348	3.53	242
SB3512-2004	2.0	2	1000	1.5	435	1.18	606	4	500	3.5	217	1.76	435	3.53	303
SB3516-3004	3.0	2	1500	1.5	652	1.18	909	4	750	3.5	326	1.76	652	3.53	455
SB2812-1206	1.2	3	400	2.5	174	2.35	242	6	200	5.5	87	2.94	174	5.88	121
SB2816-1606	1.6	3	530	2.5	230	2.35	321	6	265	5.5	115	2.94	230	5.88	161
SB3512-2006	2.0	3	670	2.5	291	2.35	406	6	335	5.5	146	2.94	291	5.88	203
SB3516-3006	3.0	3	1000	2.5	435	2.35	606	6	500	5.5	217	2.94	435	5.88	303
SB2812-1210	1.2	5	240	4.5	104	4.71	145	10	120	9.5	52	5.29	104	10.59	73
SB2816-1610	1.6	5	320	4.5	139	4.71	194	10	160	9.5	70	5.29	139	10.59	97
SB3512-2010	2.0	5	400	4.5	174	4.71	242	10	200	9.5	87	5.29	174	10.59	121
SB3516-3010	3.0	5	600	4.5	261	4.71	364	10	300	9.5	130	5.29	261	10.59	182
SB2812-1214	1.2	7	170	6.5	74	7.06	103	14	85	13.5	37	7.65	74	15.29	52
SB2816-1614	1.6	7	230	6.5	100	7.06	139	14	115	13.5	50	7.65	100	15.29	70
SB3512-2014	2.0	7	290	6.5	126	7.06	176	14	145	13.5	63	7.65	126	15.29	88
SB3516-3014	3.0	7	430	6.5	187	7.06	261	14	215	13.5	93	7.65	187	15.29	130
SB2812-1216	1.2	8	150	7.5	65	8.24	91	16	75	15.5	33	8.82	65	17.65	45
SB2816-1616	1.6	8	200	7.5	87	8.24	121	16	100	15.5	43	8.82	87	17.65	61
SB3512-2016	2.0	8	250	7.5	109	8.24	152	16	125	15.5	54	8.82	109	17.65	76
SB3516-3016	3.0	8	380	7.5	165	8.24	230	16	190	15.5	83	8.82	165	17.65	115
SB2812-1218	1.2	9	130	8.5	57	9.41	79	18	65	17.5	28	10.00	57	20.00	39
SB2816-1618	1.6	9	180	8.5	78	9.41	109	18	90	17.5	39	10.00	78	20.00	55
SB3512-2018	2.0	9	220	8.5	96	9.41	133	18	110	17.5	48	10.00	96	20.00	67
SB3516-3018	3.0	9	330	8.5	143	9.41	200	18	165	17.5	72	10.00	143	20.00	100
SB2812-1222	1.2	11	110	10.5	48	11.76	67	22	55	21.5	24	12.35	48	24.71	33
SB2816-1622	1.6	11	150	10.5	65	11.76	91	22	75	21.5	33	12.35	65	24.71	45
SB3512-2022	2.0	11	180	10.5	78	11.76	109	22	90	21.5	39	12.35	78	24.71	55
SB3516-3022	3.0	11	270	10.5	117	11.76	164	22	135	21.5	59	12.35	117	24.71	82
SB2812-1224	1.2	12	100	11.5	43	12.94	61	24	50	23.5	22	13.53	43	27.06	30
SB2816-1624	1.6	12	130	11.5	57	12.94	79	24	65	23.5	28	13.53	57	27.06	39
SB3512-2024	2.0	12	170	11.5	74	12.94	103	24	85	23.5	37	13.53	74	27.06	52
SB3516-3024	3.0	12	250	11.5	109	12.94	152	24	125	23.5	54	13.53	109	27.06	76
SB2812-1226	1.2	13	90	12.5	39	14.12	55	26	45	25.5	20	14.71	39	29.41	27
SB2816-1626	1.6	13	120	12.5	52	14.12	73	26	60	25.5	26	14.71	52	29.41	36
SB3512-2026	2.0	13	150	12.5	65	14.12	91	26	75	25.5	33	14.71	65	29.41	45
SB3516-3026	3.0	13	230	12.5	100	14.12	139	26	115	25.5	50	14.71	100	29.41	70
SB2812-1230	1.2	15	80	14.5	35	16.47	48	30	40	29.5	17	17.06	35	34.12	24
SB2816-1230	1.6	15	110	14.5	48	16.47	67	30	55	29.5	24	17.06	48	34.12	33
SB3512-1230	2.0	15	130	14.5	57	16.47	79	30	65	29.5	28	17.06	57	34.12	39
SB3516-1230	3.0	15	200	14.5	87	16.47	121	30	100	29.5	43	17.06	87	34.12	61

Notes: 1. Assumed diode voltage drop = 0.5V  
 2. All above value are estimated calculated values.

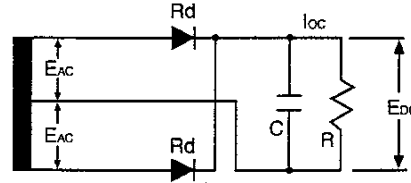
## Rectification method

## Condenser input

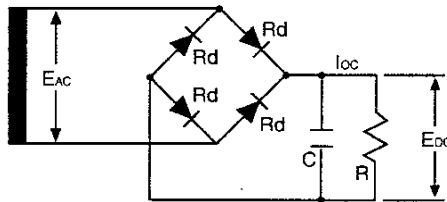
### ● Half-wave rectification



### ● Center tap full wave rectification



### ● Bridge full wave rectification



## DC-AC transformation constant (Reference value)

	Active voltage	Active current
	$E_{AC}$	$I_{AC}$
Half-wave rectification	$1.0E_{DC} + E_d$	$2.3I_{DC}$
Center tap (C.T) Full wave rectification	$0.85E_{DC} + E_d$	$1.15I_{DC}$
Bridge full wave rectification	$0.85E_{DC} + 2E_d$	$1.65I_{DC}$

$E_{AC}$  : Transformer secondary load voltage (V)

$I_{AC}$  : Transformer secondary load current (A)

$E_{DC}$  : DC output voltage (V)

$I_{DC}$  : DC output current (A)

$E_d$  : Diode voltage drop (V)