POWERSEM

ECO-PAC™ 1

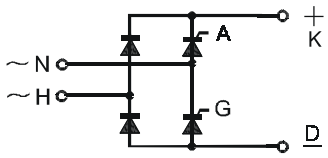
Single Phase Half Controlled Rectifier Bridge

PSBZ 36

I_{dAV} = 36 A
V_{RRM} = 600-1600 V

Preliminary Data Sheet

V_{RSM} V_{DSM} (V)	V_{RRM} V_{DRM} (V)	Type
700	600	PSBZ 36/06
900	800	PSBZ 36/08
1300	1200	PSBZ 36/12
1500	1400	PSBZ 36/14
1700	1600	PSBZ 36/16



Symbol	Test Conditions		Maximum Ratings	
I^*_{dAV}	T_C = 85 °C,	(per module)	36	A
I_{TRMS}	$T_{VJ} = T_{VJM}$		31	A
I_{TAVM}	T_C = 85 °C,	180° sine, per thyristor	40	A
I_{TSM}	T_{VJ} = 45 °C	t = 10 ms (50 Hz), sine	320	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	350	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	280	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	310	A
$\int i^2 dt$	T_{VJ} = 45 °C	t = 10 ms (50 Hz), sine	500	A²s
	V_R = 0	t = 8.3 ms (60 Hz), sine	520	A²s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	390	A²s
	V_R = 0	t = 8.3 ms (60 Hz), sine	400	A²s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$	repetitive, I_T = 50 A	150	A/µs
	f=50Hz, t_P=200µs			
	V_D=2/3V_{DRM}			
	I_G=0.15 A	non repetitive, I_T =1/2 · I_{dAV}	500	A/µs
	di_G/dt=0.15 A/µs			
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$	V_D=2/3V_{DRM}	1000	V/µs
	R_{GK}= ∞, method 1 (linear voltage rise)			
P_{GM}	$T_{VJ} = T_{VJM}$	t_P=30µs	≤ 10	W
	$I_T = I_{TAVM}$	t_P=500µs	≤ 5	W
		t_P= 10ms	≤ 1	W
P_{GAVM}			0.5	W
V_{RGM}			10	V
T_{VJ}			-40... + 125	°C
T_{VJM}			125	°C
T_{stg}			-40... + 125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min	2500	V~
	I_{ISOL} ≤ 1 mA	t = 1 s	3000	V~
M_d	Mounting torque	(M4)	1.5 - 1.8	Nm
			14 - 16	lb.in.
Weight	typ.		16	g

Data according to IEC 60747 refer to a single thyristor unless otherwise stated
*for resistive load at bridge output

Features

- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar glass passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering
- UL registered, E 148688

Applications

- Supplies for DC power equipment
- Imput rectifier for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability
- High power density
- Small and light weight

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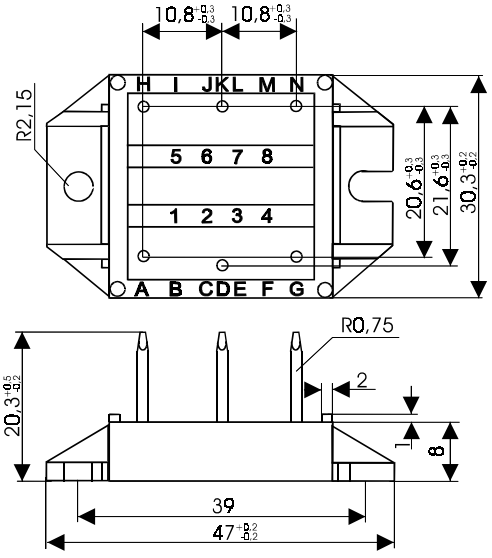
Symbol	Test Conditions			Characteristic Value	
I_D, I_R	$T_{VJ} = T_{VJM}$, $V_R = V_{RRM}$, $V_D = V_{DRM}$		≤	5	mA
	T_{VJ} = 25°C		≤	0.3	mA
V_T	I_T = 45 A,	T_{VJ} = 25 °C	≤	1.45	V
V_{TO}	For power-loss calculations only ($T_{VJ} = T_{VJM}$)			0.85	V
r_T				13	mΩ
V_{GT}	V_D = 6V	T_{VJ} = 25°C	≤	1.0	V
		T_{VJ} = -40°C	≤	1.2	V
I_{GT}	V_D = 6V	T_{VJ} = 25°C	≤	65	mA
		T_{VJ} = -40°C	≤	80	mA
		T_{VJ} =125°C	≤	50	mA
V_{GD}	$T_{VJ} = T_{VJM}$	V_D=2/3V_{DRM}	≤	0.2	V
I_{GD}	$T_{VJ} = T_{VJM}$	V_D=2/3V_{DRM}	≤	5	mA
I_L	T_G=30µs, I_G=0.3A,	T_{VJ} = 25°C	≤	150	mA
	di_G/dt=0.1A/µs	T_{VJ} = -40 °C	≤	200	mA
		T_{VJ} = 125°C	≤	100	mA
I_H	T_{VJ}= 25°C, V_D=6V, R_{GK}= ∞		≤	100	mA
t_{gd}	T_{VJ}= 25°C, V_D=1/2V_{DRM}		≤	2	µs
	I_G = 0.3 A, di_G/dt= 0.3 A/µs				
R_{thJC}	per thyristor; DC			1.4	K/W
	per module			0.35	K/W
R_{thJK}	per thyristor; DC			2.0	K/W
	per module			0.5	K/W
d_s	Creeping distance on surface			12.6	mm
d_A	Creeping distance in air			6.3	mm
a	Max. allowable acceleration			50	m/s²

Package style and outline
Dimensions in mm (1mm = 0.0394“)



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