

# P R B X

POWERBOX Medline 1100  
OBS01 Series  
1100W Single Output  
AC/DC Medical Switch Mode Power Supply  
Application Note

## Low voltage input test

The test condition is to evaluate OBS01 performance at low voltage inputs, outside SOA (Safe Operating Area).

The test condition shows an typical performance of the OBS01. The internal temperatures in the unit are below design limits at 80 VAC input and 900 W output power.

### Test condition 1.

Vo : 48V		Limit
Vin(Vac)	80	-
Iin(A)	13,625	-
Pin(W)	1093,8	-
Pout(W)	950	-
PF	0,9988	-
Iout(A)	19,79	-
CX1	98,3	105
CX2	92,7	105
L2	114,1	117
L1	117,8	117
L3	95,8	117
DB1	129,0	127,5
DB2	110,2	127,5
T2 coil	77,9	117
T2 core	77,2	117
T1 coil	78,6	117
T1 core	77,3	117
L4	90,5	117
C9	59,7	105
D4	85,5	148,7
Q8	88,0	127,5
Q2	97,4	127,5
DS7/8	83,6	148,7
DS9/10	83,9	148,7
CS7	79,1	105
CS26	77,8	105
CS28	82	105
CS14	81,3	105
LS1	85,3	117
TA1(°C)	50,3	-
TA2(°C)	50,4	-

After 10 minutes the temperature in DB1 and L1 reached the limit.

### Test condition 2.

Vo : 48V		Limit
Vin(Vac)	80	-
Iin(A)	12,801	-
Pin(W)	1029,8	-
Pout(W)	900	-
PF	0,9989	-
Iout(A)	18,75	-
CX1	93,3	105
CX2	87,9	105
L2	106,6	117
L1	110,2	117
L3	90,9	117
DB1	123,2	127,5
DB2	106,0	127,5
T2 coil	75,7	117
T2 core	75,2	117
T1 coil	76,1	117
T1 core	75,2	117
L4	87,0	117
C9	59,1	105
D4	82,6	148,7
Q8	85,0	127,5
Q2	93,3	127,5
DS7/8	81,2	148,7
DS9/10	81,4	148,7
CS7	76,6	105
CS26	75,4	105
CS28	79	105
CS14	78,6	105
LS1	82,2	117
TA1(°C)	50,5	-
TA2(°C)	50,7	-

Although the test condition 2 shows temperatures to be within design limits, consideration still remains in regards to safety and regulatory compliance. Please contact Powerbox before using the OBS01 series under above mentioned conditions

