

MODEL XEL-230-18 MTBF				
P/N CC00-01045-000				
MTBF CALCULATION PER MIL-HDBK-217F PARTS COUNT RELIABILITY PREDICTION METHOD				
ITEM	QUANTITY	FAILURE RATE PER 10⁶ HOURS	QUALITY FACTOR	TOTAL FAILURE RATE PER 10⁶ HOURS
CAPACITOR, ALUMINUM OXIDE ELECT	15	0.00012	3.0	0.0054
CAPACITOR, CERAMIC	220	0.00099	3.0	0.6534
CONNECTOR	6	0.00540	2.0	0.0648
DIODE, GENERAL PURPOSE	5	0.00360	5.5	0.0990
DIODE, LIGHT EMITTING	2	0.00047	8.0	0.0075
DIODE, SCHOTTKY	20	0.00300	2.4	0.1440
DIODE, SWITCHING	4	0.00094	5.5	0.0207
DIODE, ZENER	21	0.00330	5.5	0.3812
FET, SILICON	23	0.01400	8.0	2.5760
IC, DIGITAL CMOS	53	0.00570	3.1	0.9365
IC, REGULATOR	9	0.00950	8.0	0.6840
IGBT	1	0.01400	8.0	0.1120
INDUCTORS	3	0.00170	4.0	0.0204
OPTOCOUPLER/ISOLATOR	19	0.02700	8.0	4.1040
OSCILLATOR, CRYSTAL	1	0.03200	2.1	0.0672
PCB	3	0.00002	1.0	0.0001
RECTIFIER, POWER	2	0.00280	8.0	0.0448
RELAY	1	0.43000	3.0	1.2900
RESISTOR NETWORK, FILM	27	0.00230	3.0	0.1863
RESISTOR, METAL FILM	190	0.00120	3.0	0.6840
RESISTOR, METAL FILM, PWR	14	0.01200	3.0	0.5040
RESISTOR, WW POWER	1	0.01400	3.0	0.0420
SOLDERED CONNECTIONS	1314	0.00007	1.0	0.0907
SWITCH	2	0.00100	8.4	0.0168
THERMISTOR	4	0.06500	3.0	0.7800
TRANSFORMER, FLYBACK	2	0.02300	3.0	0.1380
TRANSIENT VOLTAGE SUPPRESSOR	6	0.00290	5.5	0.0957
TRANSISTORS, BIPOLAR	3	0.00015	5.5	0.0025
			TOTAL	13.7509
			MTBF (HOURS)	72723
			MTBF (YRS)	8.30

MODEL XEL-230-18-R MTBF				
P/N CC00-01045-006				
MTBF CALCULATION PER MIL-HDBK-217F PARTS COUNT RELIABILITY PREDICTION METHOD				
ITEM	QUANTITY	FAILURE RATE PER 10⁶ HOURS	QUALITY FACTOR	TOTAL FAILURE RATE PER 10⁶ HOURS
CAPACITOR, ALUMINUM OXIDE ELECT	15	0.00012	3.0	0.0054
CAPACITOR, CERAMIC	235	0.00099	3.0	0.6980
CONNECTOR	6	0.00540	2.0	0.0648
DIODE, GENERAL PURPOSE	5	0.00360	5.5	0.0990
DIODE, LIGHT EMITTING	2	0.00047	8.0	0.0075
DIODE, SCHOTTKY	22	0.00300	2.4	0.1584
DIODE, SWITCHING	4	0.00094	5.5	0.0207
DIODE, ZENER	21	0.00330	5.5	0.3812
FET, SILICON	22	0.01400	8.0	2.4640
IC, DIGITAL CMOS	60	0.00570	3.1	1.0602
IC, REGULATOR	10	0.00950	8.0	0.7600
IGBT	1	0.01400	8.0	0.1120
INDUCTORS	3	0.00170	4.0	0.0204
OPTOCOUPLER/ISOLATOR	17	0.02700	8.0	3.6720
OSCILLATOR, CRYSTAL	1	0.03200	2.1	0.0672
PCB	3	0.00002	1.0	0.0001
RECTIFIER, POWER	2	0.00280	8.0	0.0448
RELAY	1	0.43000	3.0	1.2900
RESISTOR NETWORK, FILM	25	0.00230	3.0	0.1725
RESISTOR, METAL FILM	200	0.00120	3.0	0.7200
RESISTOR, METAL FILM, PWR	13	0.01200	3.0	0.4680
RESISTOR, WW POWER	1	0.01400	3.0	0.0420
SOLDERED CONNECTIONS	1374	0.00007	1.0	0.0948
SWITCH	2	0.00100	8.4	0.0168
THERMISTOR	4	0.06500	3.0	0.7800
TRANSFORMER, FLYBACK	2	0.02300	3.0	0.1380
TRANSIENT VOLTAGE SUPPRESSOR	7	0.00290	5.5	0.1117
TRANSISTORS, BIPOLAR	3	0.00015	5.5	0.0025
			TOTAL	13.4718
			MTBF (HOURS)	74229
			MTBF (YRS)	8.47

MODEL XEL-230-36 MTBF				
P/N CC00-01045-001				
MTBF CALCULATION PER MIL-HDBK-217F PARTS COUNT RELIABILITY PREDICTION METHOD				
ITEM	QUANTITY	FAILURE RATE PER 10⁶ HOURS	QUALITY FACTOR	TOTAL FAILURE RATE PER 10⁶ HOURS
CAPACITOR, ALUMINUM OXIDE ELECT	15	0.00012	3.0	0.0054
CAPACITOR, CERAMIC	220	0.00099	3.0	0.6534
CONNECTOR	6	0.00540	2.0	0.0648
DIODE, GENERAL PURPOSE	5	0.00360	5.5	0.0990
DIODE, LIGHT EMITTING	2	0.00047	8.0	0.0075
DIODE, SCHOTTKY	20	0.00300	2.4	0.1440
DIODE, SWITCHING	4	0.00094	5.5	0.0207
DIODE, ZENER	21	0.00330	5.5	0.3812
FET, SILICON	23	0.01400	8.0	2.5760
IC, DIGITAL CMOS	52	0.00570	3.1	0.9188
IC, REGULATOR	9	0.00950	8.0	0.6840
IGBT	1	0.01400	8.0	0.1120
INDUCTORS	3	0.00170	4.0	0.0204
OPTOCOUPLER/ISOLATOR	20	0.02700	8.0	4.3200
OSCILLATOR, CRYSTAL	1	0.03200	2.1	0.0672
PCB	3	0.00002	1.0	0.0001
RECTIFIER, POWER	2	0.00280	8.0	0.0448
RELAY	1	0.43000	3.0	1.2900
RESISTOR NETWORK, FILM	27	0.00230	3.0	0.1863
RESISTOR, METAL FILM	176	0.00120	3.0	0.6336
RESISTOR, METAL FILM, PWR	15	0.01200	3.0	0.5400
RESISTOR, WW POWER	1	0.01400	3.0	0.0420
SOLDERED CONNECTIONS	1288	0.00007	1.0	0.0889
SWITCH	2	0.00100	8.4	0.0168
THERMISTOR	4	0.06500	3.0	0.7800
TRANSFORMER, FLYBACK	2	0.02300	3.0	0.1380
TRANSIENT VOLTAGE SUPPRESSOR	6	0.00290	5.5	0.0957
TRANSISTORS, BIPOLAR	3	0.00015	5.5	0.0025
			TOTAL	13.9330
			MTBF (HOURS)	71772
			MTBF (YRS)	8.19

MODEL XEL-230-36-R MTBF				
P/N CC00-01045-007				
MTBF CALCULATION PER MIL-HDBK-217F PARTS COUNT RELIABILITY PREDICTION METHOD				
ITEM	QUANTITY	FAILURE RATE PER 10⁶ HOURS	QUALITY FACTOR	TOTAL FAILURE RATE PER 10⁶ HOURS
CAPACITOR, ALUMINUM OXIDE ELECT	15	0.00012	3.0	0.0054
CAPACITOR, CERAMIC	235	0.00099	3.0	0.6980
CONNECTOR	6	0.00540	2.0	0.0648
DIODE, GENERAL PURPOSE	5	0.00360	5.5	0.0990
DIODE, LIGHT EMITTING	2	0.00047	8.0	0.0075
DIODE, SCHOTTKY	22	0.00300	2.4	0.1584
DIODE, SWITCHING	4	0.00094	5.5	0.0207
DIODE, ZENER	21	0.00330	5.5	0.3812
FET, SILICON	23	0.01400	8.0	2.5760
IC, DIGITAL CMOS	63	0.00570	3.1	1.1132
IC, REGULATOR	10	0.00950	8.0	0.7600
IGBT	1	0.01400	8.0	0.1120
INDUCTORS	3	0.00170	4.0	0.0204
OPTOCOUPLER/ISOLATOR	16	0.02700	8.0	3.4560
OSCILLATOR, CRYSTAL	1	0.03200	2.1	0.0672
PCB	3	0.00002	1.0	0.0001
RECTIFIER, POWER	2	0.00280	8.0	0.0448
RELAY	1	0.43000	3.0	1.2900
RESISTOR NETWORK, FILM	26	0.00230	3.0	0.1794
RESISTOR, METAL FILM	253	0.00120	3.0	0.9108
RESISTOR, METAL FILM, PWR	17	0.01200	3.0	0.6120
RESISTOR, WW POWER	1	0.01400	3.0	0.0420
SOLDERED CONNECTIONS	1496	0.00007	1.0	0.1032
SWITCH	2	0.00100	8.4	0.0168
THERMISTOR	4	0.06500	3.0	0.7800
TRANSFORMER, FLYBACK	2	0.02300	3.0	0.1380
TRANSIENT VOLTAGE SUPPRESSOR	7	0.00290	5.5	0.1117
TRANSISTORS, BIPOLAR	3	0.00015	5.5	0.0025
			TOTAL	13.7709
			MTBF (HOURS)	72617
			MTBF (YRS)	8.29

MODEL XEL-230-40 MTBF				
P/N CC00-01045-002				
MTBF CALCULATION PER MIL-HDBK-217F PARTS COUNT RELIABILITY PREDICTION METHOD				
ITEM	QUANTITY	FAILURE RATE PER 10⁶ HOURS	QUALITY FACTOR	TOTAL FAILURE RATE PER 10⁶ HOURS
CAPACITOR, ALUMINUM OXIDE ELECT	15	0.00012	3.0	0.0054
CAPACITOR, CERAMIC	220	0.00099	3.0	0.6534
CONNECTOR	6	0.00540	2.0	0.0648
DIODE, GENERAL PURPOSE	5	0.00360	5.5	0.0990
DIODE, LIGHT EMITTING	2	0.00047	8.0	0.0075
DIODE, SCHOTTKY	20	0.00300	2.4	0.1440
DIODE, SWITCHING	4	0.00094	5.5	0.0207
DIODE, ZENER	21	0.00330	5.5	0.3812
FET, SILICON	23	0.01400	8.0	2.5760
IC, DIGITAL CMOS	55	0.00570	3.1	0.9719
IC, REGULATOR	9	0.00950	8.0	0.6840
IGBT	1	0.01400	8.0	0.1120
INDUCTORS	3	0.00170	4.0	0.0204
OPTOCOUPLER/ISOLATOR	16	0.02700	8.0	3.4560
OSCILLATOR, CRYSTAL	1	0.03200	2.1	0.0672
PCB	3	0.00002	1.0	0.0001
RECTIFIER, POWER	2	0.00280	8.0	0.0448
RELAY	1	0.43000	3.0	1.2900
RESISTOR NETWORK, FILM	29	0.00230	3.0	0.2001
RESISTOR, METAL FILM	191	0.00120	3.0	0.6876
RESISTOR, METAL FILM, PWR	13	0.01200	3.0	0.4680
RESISTOR, WW POWER	1	0.01400	3.0	0.0420
SOLDERED CONNECTIONS	1316	0.00007	1.0	0.0908
SWITCH	2	0.00100	8.4	0.0168
THERMISTOR	4	0.06500	3.0	0.7800
TRANSFORMER, FLYBACK	2	0.02300	3.0	0.1380
TRANSIENT VOLTAGE SUPPRESSOR	6	0.00290	5.5	0.0957
TRANSISTORS, BIPOLAR	3	0.00015	5.5	0.0025
			TOTAL	13.1197
			MTBF (HOURS)	76221
			MTBF (YRS)	8.70

MODEL XEL-230-40-R MTBF				
P/N CC00-01045-008				
MTBF CALCULATION PER MIL-HDBK-217F PARTS COUNT RELIABILITY PREDICTION METHOD				
ITEM	QUANTITY	FAILURE RATE PER 10⁶ HOURS	QUALITY FACTOR	TOTAL FAILURE RATE PER 10⁶ HOURS
CAPACITOR, ALUMINUM OXIDE ELECT	15	0.00012	3.0	0.0054
CAPACITOR, CERAMIC	235	0.00099	3.0	0.6980
CONNECTOR	10	0.00540	2.0	0.1080
DIODE, GENERAL PURPOSE	5	0.00360	5.5	0.0990
DIODE, LIGHT EMITTING	2	0.00047	8.0	0.0075
DIODE, SCHOTTKY	22	0.00300	2.4	0.1584
DIODE, SWITCHING	4	0.00094	5.5	0.0207
DIODE, ZENER	21	0.00330	5.5	0.3812
FET, SILICON	23	0.01400	8.0	2.5760
IC, DIGITAL CMOS	59	0.00570	3.1	1.0425
IC, REGULATOR	11	0.00950	8.0	0.8360
IGBT	1	0.01400	8.0	0.1120
INDUCTORS	3	0.00170	4.0	0.0204
OPTOCOUPLER/ISOLATOR	19	0.02700	8.0	4.1040
OSCILLATOR, CRYSTAL	1	0.03200	2.1	0.0672
PCB	3	0.00002	1.0	0.0001
RECTIFIER, POWER	2	0.00280	8.0	0.0448
RELAY	1	0.43000	3.0	1.2900
RESISTOR NETWORK, FILM	27	0.00230	3.0	0.1863
RESISTOR, METAL FILM	196	0.00120	3.0	0.7056
RESISTOR, METAL FILM, PWR	13	0.01200	3.0	0.4680
RESISTOR, WW POWER	1	0.01400	3.0	0.0420
SOLDERED CONNECTIONS	1384	0.00007	1.0	0.0955
SWITCH	2	0.00100	8.4	0.0168
THERMISTOR	4	0.06500	3.0	0.7800
TRANSFORMER, FLYBACK	2	0.02300	3.0	0.1380
TRANSIENT VOLTAGE SUPPRESSOR	7	0.00290	5.5	0.1117
TRANSISTORS, BIPOLAR	3	0.00015	5.5	0.0025
			TOTAL	14.1174
			MTBF (HOURS)	70835
			MTBF (YRS)	8.09