

APEX MICROTECHNOLOGY CORPORATION
RELIABILITY PREDICTION
PA07M/883

by

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Date of prediction: 15-Mar-01

This reliability prediction is based on MIL-HDBK-217F,
December 2, 1991 including Notice 2, February 28, 1995.

Conditions of this prediction are as follows:

Hybrid quality level is	B
Environment is Gf	Ground, Fixed
Case temperature is	40 C
Internal Power Dissipation =	25 W
Supply voltage is +/-	25 V
An AC signal is applied.	
Product introduction date:	01-Oct-80

The results of this prediction are:

0.31 failures per million hours; or,
MTBF=3179 thousand hours.

Transistors, Low Frequency, Bipolar:

$$L_p = L_b * P_{iT} * P_{iR} * P_{iS}$$

Q1		Volts = 40	Watts = 1.2	Tj = 175	'K/W= 125	
Usage:	Vstress = 0.65	Vpwr = 0.65	Ic = 0.0003	Vs = 0.0163	Power = 0.0002	
Lb	PiT	PiR	PiS	Nc	Tj = 40.022	
0.00074	1.405565	1.0698	0.0473	1		5.27E-05
Q2		Volts = 40	Watts = 1.2	Tj = 175	'K/W= 125	
Usage:	Vstress = 1.65	Vpwr = 1.65	Ic = 0.0003	Vs = 0.0413	Power = 0.0004	
Lb	PiT	PiR	PiS	Nc	Tj = 40.056	
0.00074	1.406589	1.0698	0.0511	1		5.69E-05
Q7,19,20,21		Volts = 40	Watts = 1.2	Tj = 175	'K/W= 125	
Usage:	Vstress = 0.65	Vpwr = 0.65	Ic = 1E-05	Vs = 0.0163	Power = 7E-06	
Lb	PiT	PiR	PiS	Nc	Tj = 40.001	
0.00074	1.404925	1.0698	0.0473	4		0.000211
Q11		Volts = 40	Watts = 1.2	Tj = 175	'K/W= 125	
Usage:	Vstress = 1.4	Vpwr = 1.4	Ic = 0.006	Vs = 0.035	Power = 0.0084	
Lb	PiT	PiR	PiS	Nc	Tj = 41.05	
0.00074	1.436986	1.0698	0.0502	1		5.71E-05
Q18		Volts = 40	Watts = 1.2	Tj = 175	'K/W= 125	
Usage:	Vstress = 3.1	Vpwr = 3.1	Ic = 1E-05	Vs = 0.0775	Power = 3E-05	
Lb	PiT	PiR	PiS	Nc	Tj = 40.004	
0.00074	1.405017	1.0698	0.0572	1		6.36E-05
Q3		Volts = 120	Watts = 1.2	Tj = 200	'K/W= 145.83	
Usage:	Vstress = 45.4	Vpwr = 23.5	Ic = 0.008	Vs = 0.3783	Power = 0.188	
Lb	PiT	PiR	PiS	Nc	Tj = 67.417	
0.00074	2.420376	1.0698	0.1454	1		0.000279
Q8		Volts = 140	Watts = 1.2	Tj = 200	'K/W= 145.83	
Usage:	Vstress = 42	Vpwr = 20.65	Ic = 0.0003	Vs = 0.3	Power = 0.0056	
Lb	PiT	PiR	PiS	Nc	Tj = 40.813	
0.00074	1.429702	1.0698	0.1141	1		0.000129
Q9		Volts = 140	Watts = 1.2	Tj = 200	'K/W= 145.83	
Usage:	Vstress = 41.15	Vpwr = 19.8	Ic = 0.0003	Vs = 0.2939	Power = 0.0053	
Lb	PiT	PiR	PiS	Nc	Tj = 40.78	
0.00074	1.428675	1.0698	0.1119	1		0.000127

