

RADIO CORPORATION OF AMERICA
MEMORY PRODUCTS
NEEDHAM, MASS.

Typical Characteristics of RCA High-temperature
Memory Core Type 233 M1 (formerly NXF 0023)

Test Temperature = 25°C
Full Driving Current (I_m) = 800 ma
Partial Write Current (I_{pw}) = 480 ma
Current Pulse Rise Time (t_r) = 0.5 u-secs
Current Pulse Duration (t_d) = 4.0 u-secs
Undisturbed One Voltage (uV_1) = 60 mv
Disturbed Zero Voltage (dV_z) = 5 mv
Peaking Time of uV_1 (t_p) = 0.69 u-secs
Switching Time of uV_1 (t_s) = 1.10 u-secs

Hysteresis Loop Characteristics at 25°C

Maximum Squareness Ratio (R_s) = 0.88
Saturation Coercivity (H_{CS}) = 3.05 oersteds
Saturation Flux Density (B_s) = 2200 gauss

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The type number identifies a particular laboratory design of semiconductor product. The type number and tentative data are subject to change. No obligations are assumed for notice of change or future manufacture of the product unless otherwise arranged.

Typical Variation of Pulse
Properties with Temperature

$I_m = 800$ ma	$I_{pw} = 400$ ma	$t_r = 0.5$ u-secs.	$t_d = 4.0$ u-secs.		
Temperature ($^{\circ}$ C)	uV_1 (mv)	dV_2 (mv)	t_p (usec)	t_s (usec)	$*I_b$ (ma)
125	82	Dist.	.78	1.20	393
115	81	5	.77	1.23	410
105	80	5	.75	1.25	442
95	79	5	.73	1.28	462
85	72	5	.72	1.28	471
75	70	5	.72	1.27	486
65	68	5	.70	1.22	504
55	66	5	.69	1.22	508
45	65	5	.69	1.21	517
35	62	5	.68	1.15	524
25	61	5	.68	1.10	536
15	60	5	.68	1.10	548
5	59	5	.68	1.08	560
-5	56	5	.69	1.07	572
-15	53	5	.69	1.06	580
-25	50	5	.70	1.05	584
-35	44	5	.71	1.05	590
-45	38	5.5	.70	1.05	592
-55	33	5.5	.67	1.05	595

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Typical Variation of Pulse
Properties with Temperature

$I_m = 900$ ma	$I_{PW} = 450$ ma	$t_r = 0.5$ u-secs.	$t_d = 4.0$ u-secs.		
Temperature (°C)	uV_z (mv)	dV_z (mv)	t_p (usec)	t_s (usec)	$*I_b$ (ma)
100	109	Dist.	.67	1.04	428
90	106	Dist.	.68	1.05	440
80	102	5	.69	1.10	460
70	100	5	.69	1.12	481
60	99	5	.69	1.15	500
50	97	5	.70	1.13	522
40	96	5	.69	1.13	544
30	95	5	.68	1.13	561
20	95	5	.67	1.10	578
10	94	5.5	.67	1.06	588
0	92	5.5	.67	1.05	600
-10	88	5.5	.67	1.04	616
-20	86	5.5	.67	1.02	620
-30	84	5.5	.67	1.02	625
-40	80	5.5	.67	1.00	629
-50	76	5.5	.67	1.00	632
-55	73	5.5	.67	1.00	636

* I_b (Break Current) is the maximum Partial Write Current (I_{PW}) at a given Full Driving Current (I_m) which a core in the zero state will tolerate without any substantial increase in the amplitude of the Disturbed Zero Voltage (dV_z).

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