RECOMMENDED OPERATING CONDITIONS (T_A = 25°C)

PART NUMBER PACKAGE OUTLINE			NE450184C	
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	MAX
V_{DS}	Drain to Source Voltage	V		3
I_{GS}	Gate Source Current	μA		8
I_{DS}	Drain Source Current	mA		15

TYPICAL NOISE PARAMETERS (T_A = 25°C)

FREQ. (GHz)	F_{MIN} (dB)	Rn/50 (Ω)	Γ_{OPT} MAG	Γ_{OPT} ANG
V_{DS} = 2 V, I_D = 10 mA				
10	0.33	0.042	0.64	113.8
11	0.35	0.045	0.61	122.8
12	0.38	0.044	0.57	132.1
13	0.41	0.040	0.52	144.9
14	0.45	0.037	0.44	159.8
15	0.49	0.037	0.38	171.4
16	0.53	0.044	0.34	-179.4
17	0.57	0.062	0.27	-154.0
18	0.62	0.087	0.20	-132.7
19	0.68	0.115	0.14	-90.9
20	0.74	0.141	0.12	-56.6
21	0.80	0.162	0.14	-5.4
22	0.87	0.174	0.19	28.9
23	0.94	0.177	0.25	46.4
24	1.02	0.172	0.31	65.7
25	1.11	0.167	0.36	79.0
26	1.21	0.175	0.41	98.9
V_{DS} = 2 V, I_D = 20 mA				
10	0.39	0.040	0.60	117.7
11	0.42	0.044	0.58	125.9
12	0.46	0.045	0.53	136.0
13	0.49	0.044	0.44	147.2
14	0.53	0.044	0.38	161.7
15	0.57	0.049	0.33	177.5
16	0.61	0.063	0.27	-168.4
17	0.66	0.085	0.19	-142.2
18	0.71	0.113	0.13	-112.6
19	0.77	0.144	0.10	-51.7
20	0.83	0.171	0.14	1.4
21	0.90	0.189	0.19	31.5
22	0.96	0.193	0.26	48.7
23	1.05	0.183	0.33	68.1
24	1.12	0.169	0.37	79.6
25	1.21	0.169	0.42	89.0
26	1.30	0.208	0.47	102.6
V_{DS} = 3 V, I_D = 10 mA				
10	0.35	0.046	0.68	115.4
11	0.38	0.047	0.67	125.0
12	0.42	0.045	0.57	135.1
13	0.46	0.040	0.55	147.4
14	0.50	0.036	0.42	161.6
15	0.54	0.037	0.41	173.5
16	0.58	0.046	0.36	-174.6
17	0.62	0.065	0.28	-148.1
18	0.68	0.093	0.23	-128.3
19	0.73	0.125	0.17	-95.6
20	0.79	0.154	0.14	-55.0
21	0.85	0.177	0.16	-3.6
22	0.92	0.191	0.21	25.0
23	1.00	0.195	0.26	42.4
24	1.08	0.189	0.36	68.4
25	1.16	0.180	0.39	79.3
26	1.25	0.182	0.46	94.1

ABSOLUTE MAXIMUM RATINGS[1] (T_A = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V_{DS}	Drain to Source Voltage	V	4
V_{GS}	Gate to Source Voltage	V	-3
I_{DS}	Drain Current	mA	I_{DSS}
I_{GS}	Gate Current	μA	80
P_{TOT}	Total Power Dissipation	mW	165
T_{CH}	Channel Temperature	°C	+150
T_{STG}	Storage Temperature	°C	-65 to +150

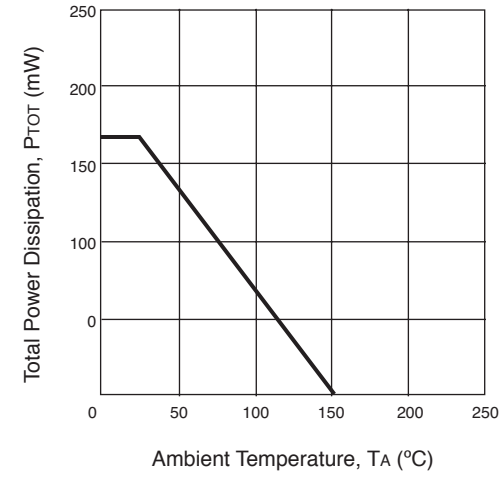
Notes:
1. Operation in excess of any one of these parameters may result in permanent damage.

ORDERING INFORMATION

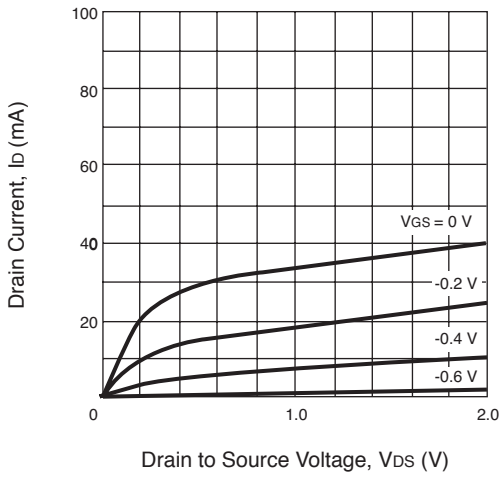
PART NUMBER	SUPPLYING FORM	MARKING
N450184C-T1	Tape & Reel 1000 pcs./reel	T.B.D.
N450184C-T1A	Tape & Reel 5000 pcs./reel	

TYPICAL PERFORMANCE CURVES (T_A = 25°C)

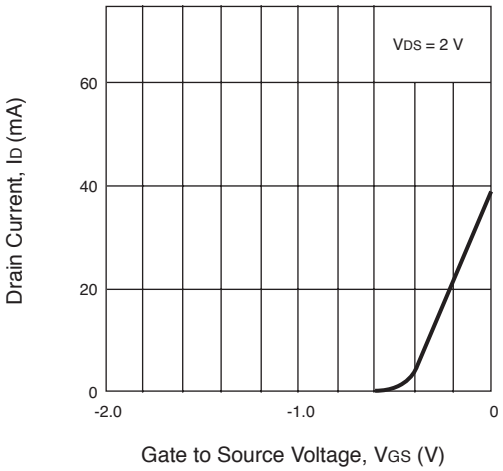
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



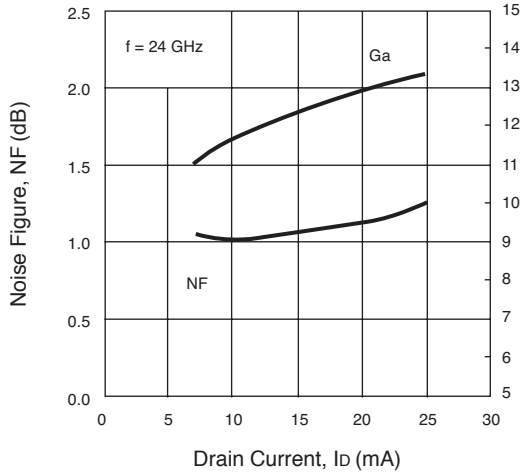
DRAIN CURRENT GAIN vs. DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs. GATE TO SOURCE VOLTAGE



NOISE FIGURE, ASSOCIATED GAIN vs. DRAIN CURRENT ID



TYPICAL NOISE PARAMETERS (T_A = 25°C)

NE450184C

V_{DS} = 2 V, I_D = 10 mA

FREQUENCY	S_{11}		S_{21}		S_{12}		S_{22}	
(GHz)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.641	-140.08	3.959	31.32	0.068	-0.46	0.487	-112.00
11	0.603	-152.28	3.890	18.59	0.070	-6.50	0.483	-120.40
12	0.568	-164.75	3.850	5.81	0.072	-12.39	0.480	-129.24
13	0.532	-178.10	3.842	-7.24	0.074	-18.65	0.477	-138.24
14	0.496	167.08	3.872	-20.78	0.076	-25.40	0.471	-147.37
15	0.463	150.29	3.922	-34.81	0.078	-32.94	0.461	-157.36
16	0.436	130.51	3.997	-49.66	0.079	-41.76	0.447	-168.01
17	0.420	107.17	4.090	-65.63	0.080	-52.22	0.424	179.79
18	0.425	80.47	4.170	-82.96	0.080	-65.29	0.389	165.54
19	0.456	51.90	4.218	-101.81	0.079	-81.36	0.339	148.45
20	0.510	23.51	4.176	-121.95	0.075	-100.75	0.273	127.17
21	0.573	-3.14	4.021	-143.19	0.070	-123.89	0.203	98.78
22	0.630	-27.18	3.746	-164.64	0.067	-150.76	0.149	57.83
23	0.663	-48.51	3.389	174.41	0.065	179.99	0.146	8.97
24	0.673	-67.15	3.013	154.33	0.069	152.15	0.177	-27.73
25	0.664	-83.71	2.665	135.33	0.080	128.49	0.214	-50.32
26	0.643	-98.27	2.353	117.08	0.097	109.14	0.240	-65.86
V_{DS} = 2 V, I_D = 20 mA								
10	0.598	-139.23	4.482	29.60	0.066	6.08	0.455	-107.18
11	0.561	-150.81	4.378	17.11	0.069	0.24	0.456	-115.14
12	0.526	-162.41	4.312	4.62	0.072	-5.81	0.458	-123.67
13	0.491	-174.69	4.280	-8.12	0.074	-12.10	0.461	-132.40
14	0.455	171.32	4.297	-21.27	0.077	-19.03	0.463	-141.40
15	0.425	155.93	4.339	-34.78	0.079	-26.67	0.459	-150.99
16	0.399	136.85	4.415	-49.14	0.082	-35.42	0.451	-161.40
17	0.382	114.11	4.526	-64.55	0.083	-45.67	0.435	-173.22
18	0.384	87.31	4.640	-81.37	0.084	-58.13	0.406	173.09
19	0.410	58.38	4.736	-99.75	0.083	-73.10	0.362	156.68
20	0.467	28.17	4.736	-119.69	0.080	-91.47	0.298	136.61
21	0.536	0.81	4.623	-140.99	0.075	-113.52	0.221	111.49
22	0.605	-24.56	4.335	-162.85	0.069	-139.42	0.152	74.50
23	0.645	-47.28	3.944	175.62	0.066	-168.61	0.128	22.78
24	0.656	-66.76	3.501	155.09	0.068	162.35	0.150	-21.62
25	0.646	-84.22	3.086	135.56	0.078	136.03	0.183	-48.73
26	0.625	-99.23	2.706	117.10	0.095	114.39	0.210	-64.57
V_{DS} = 3 V, I_D = 10 mA								
10	0.660	-140.85	3.685	31.64	0.065	1.61	0.505	-111.21
11	0.624	-153.43	3.632	18.77	0.066	-3.78	0.501	-119.70
12	0.587	-166.20	3.604	5.82	0.068	-9.12	0.498	-128.70
13	0.551	-179.77	3.600	-7.39	0.070	-14.42	0.497	-137.79
14	0.514	164.77	3.634	-21.14	0.073	-20.67	0.494	-146.92
15	0.482	148.14	3.686	-35.27	0.075	-27.22	0.486	-156.71
16	0.458	127.89	3.755	-50.31	0.078	-35.51	0.475	-167.54
17	0.444	104.72	3.846	-66.42	0.080	-45.77	0.457	-179.79
18	0.449	78.48	3.923	-83.90	0.082	-58.20	0.426	166.04
19	0.478	50.91	3.971	-102.83	0.081	-73.69	0.385	148.95
20	0.534	22.44	3.927	-123.13	0.078	-92.56	0.324	127.77
21	0.594	-3.23	3.791	-144.44	0.073	-115.29	0.257	101.30
22	0.656	-27.07	3.527	-166.06	0.066	-142.16	0.201	65.32
23	0.689	-48.63	3.201	172.80	0.063	-171.77	0.185	22.86
24	0.696	-67.07	2.842	152.51	0.066	158.67	0.205	-13.69
25	0.684	-83.82	2.516	133.36	0.075	132.08	0.238	-40.02
26	0.671	-98.74	2.219	115.12	0.090	111.37	0.270	-57.73

Note:

1. Gain Calculations:

MAG = $\frac{|S_{21}|}{|S_{12}|}\left(K \pm \sqrt{K^2 - 1}\right)$. When K ″ 1, MAG is undefined and MSG values are used. MSG = $\frac{|S_{21}|}{|S_{12}|}$, K = $\frac{1 + |\square|^2 - |S_{11}|^2 - |S_{22}|^2}{2\,|S_{12}\,S_{21}|}$, $\square = S_{11}\,S_{22} - S_{21}\,S_{12}$

MAG = Maximum Available Gain
MSG = Maximum Stable Gain

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