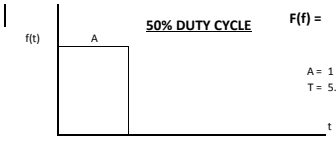


50% DUTY CYCLE

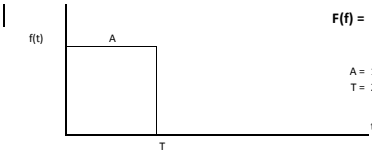
$$F(f) = \frac{A*e^{-j\pi fT/2}}{\pi*f} \sin(\pi fT/2)$$

A = 1
T = 5.00E-04

FOURIER SERIES

		Vs	V	Watts	dBm	dB_M 2 line spectra		
F(0) =	A*T/2	2.50E-04	0.5000	0.2500	23.979400	23.979400	1.00	0
F(1/T) =	A*T/π	1.59E-04	0.3183	0.1013	20.057003	20.057003	0.64	2000.00
F(2/T) =	0			0.0000	0.000000		0.00	4000.00
F(3/T) =	(A*T)/(3*π)	5.31E-05	0.1061	0.0113	10.514577	10.514577	0.21	6000.00
F(4/T) =	0			0.0000	0.000000		0.00	8000.00
F(5/T) =	(A*T)/(5*π)	3.18E-05	0.0637	0.0041	6.077602	6.077602	0.13	10000.00
F(6/T) =	0			0.0000	0.000000		0.00	12000.00
F(7/T) =	(A*T)/(7*π)	2.27E-05	0.0455	0.0021	3.155042	3.155042	0.09	14000.00
F(8/T) =	0			0.0000	0.000000		0.00	16000.00
F(9/T) =	(A*T)/(9*π)	1.77E-05	0.0354	0.0013	0.972152	0.972152	0.07	18000.00
F(10/T) =	0			0.0000	0.000000		0.00	20000.00
F(11/T) =	(A*T)/(11*π)	1.45E-05	0.0289	0.0008	-0.770851	-0.770851	0.06	22000.00
F(12/T) =	0			0.0000	0.000000		0.00	24000.00
F(13/T) =	(A*T)/(13*π)	1.22E-05	0.0245	0.0006	-2.221865	-2.221865	0.05	26000.00
F(14/T) =	0			0.0000	0.000000		0.00	28000.00
F(15/T) =	(A*T)/(15*π)	1.06E-05	0.0212	0.0005	-3.464823		0.04	30000.00
				3.72E-01 W				

$$P = 1/T \int_0^T x(t)^2\,dt \qquad P = 1/T \int_0^{2.50E-04} (1)^2\,dt = 5.00E-01 \text{ W} \qquad P = 1/T \int_0^T = 0.5 \text{ W}$$



$$F(f) = \frac{A*e^{-j\pi fT}}{\pi*f} \sin(\pi fT)$$

A = 1
T = 2.50E-04

		Vs	V	Watts	dBm	
F(0) =	A*T	2.50E-04	1.00	1.0000	30.00	1.00
F(1/2T) =	"-j*2*A*T/π	1.59E-04	0.64	0.4053	22.16	0.64
F(1/T) =	0			0.0000	0	0
F(3/2T) =	j*2*A*T/3*π	5.31E-05	0.21	0.0450	3.07	0.21
F(2/T) =	0			0.0000	0.00	0
F(5/2T) =	"-j*2*A*T/5*π	3.18E-05	0.13	0.0162	-5.80	0.13
F(3/T) =	0			0.0000	0.00	0
F(7/2*T) =	j*2*A*T/7*π	2.27E-05	0.09	0.0083	-11.65	0.09
F(4/T) =	0			0.0000	0.00	0
F(9/2T) =	"-j*2*A*T/9*π	1.77E-05	0.07	0.0050	-16.01	0.07
F(5/T) =	0			0.0000	0.00	0
F(11/2T) =	j*2*A*T/11*π	1.45E-05	0.06	0.0033	-19.50	0.06
F(6/T) =	0			0.0000	0.00	0
F(13/2T) =	"-j*2*A*T/13*π	1.22E-05	0.05	0.0024	-22.40	0.05
F(7/T) =	0			0.0000	0.00	0
F(15/2T) =	"-j*2*A*T/15*π	1.06E-05	0.04	0.0018	-24.89	0.04
				1.4874 W		0

$$x(t)^2\,dt \qquad P = 1/T \int_0^{2.50E-04} (1)^2\,dt = 1.00 \text{ W}$$

0	17.9588	30
2000	10.114005	22.15520492
6000	-8.970845	3.07035473
10000	-17.8448	-5.803595255
14000	-23.68992	-11.64871668
18000	-28.0557	-16.01449546
22000	-31.5417	-19.50050249
26000	-34.44373	-22.40252917
30000	-36.92965	-24.88844544

TRANSFORM	SERIES	
		0.79
1.00		1.00
0.64	1/3	0.33
0.21	1/5	0.20
0.13	1/7	0.14
0.09	1/9	0.11
0.07	1/11	0.09
0.06	1/13	0.08
0.05		
0.04		