

ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{CC}	Supply Voltage	V	6
P _{IN}	Input Power	dBm	+10
P _T	Power Dissipation ²	mW	200
T _{OP}	Operating Temperature	°C	-40 to +85
T _{STG}	Storage Temperature	°C	-55 to +150

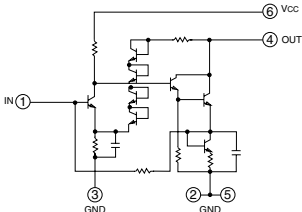
Notes:

1. Operation in excess of any one of these parameters may result in permanent damage.
2. Mounted on 50 x 50 x 1.6 mm epoxy glass PWB (T_A = +85°C).

RECOMMENDED
OPERATING CONDITIONS

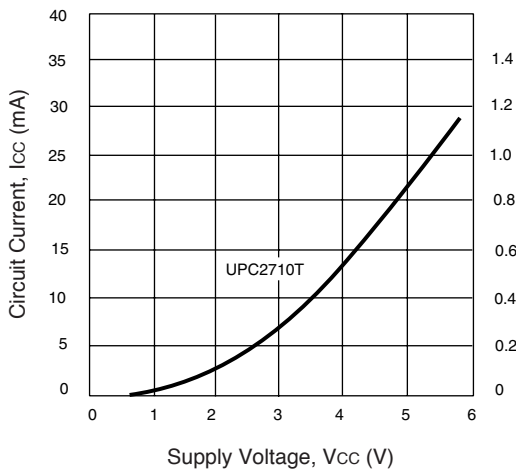
SYMBOL	PARAMETER	UNITS	MIN	TYP	MAX
V _{CC}	Supply Voltage	V	4.5	5.0	5.5

PIN DESCRIPTIONS

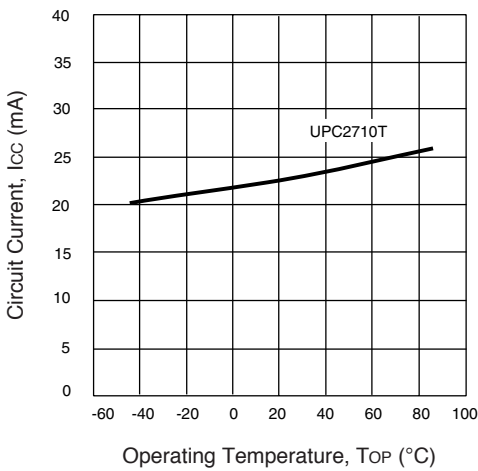
Pin No.	Symbol	Applied Voltage (V)	Pin Voltage (V)	Description	Internal Equivalent Circuit
1	Input	—	0.9	Signal input pin. An internal matching circuit, configured with resistors, enables 50 Ω connection over a wide bandwidth. A multi-feedback circuit is designed to cancel the deviations of h _{FE} and resistance. This pin must be coupled to the signal source with a blocking capacitor.	
4	Output	—	—	Signal output pin. Connect an inductor between this pin and V _{CC} to supply current to the internal output transistors.	
6	V _{CC}	4.5 to 5.5	—	Power supply pin. This pin should be externally equipped with a bypass capacitor to minimize ground impedance.	
2 3 5	GND	0	—	Ground pins. These pins should be connected to system ground with minimum inductance. Ground pattern on the board should be formed as wide as possible. All the ground pins must be connected together with wide ground pattern to minimize impedance difference.	

TYPICAL PERFORMANCE CURVES (T_A = 25°C)

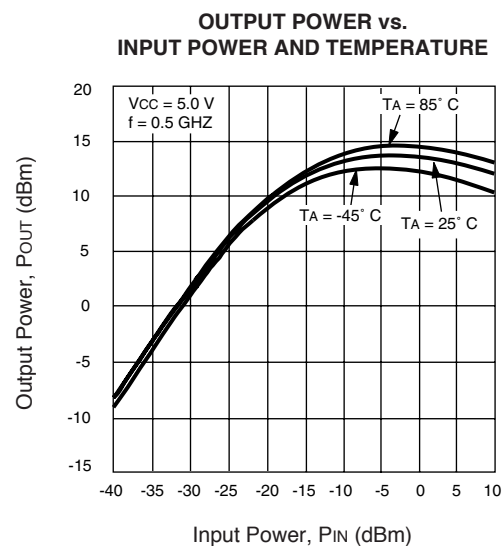
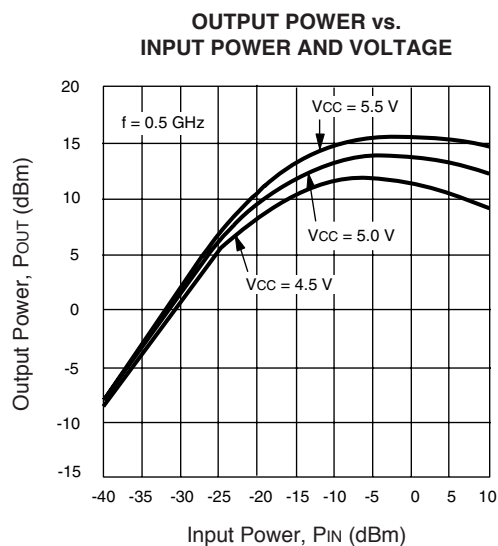
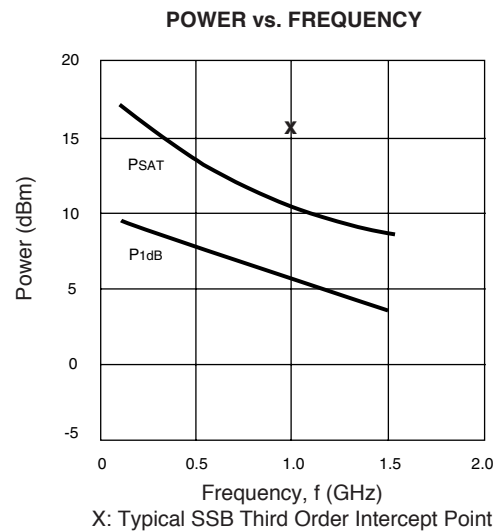
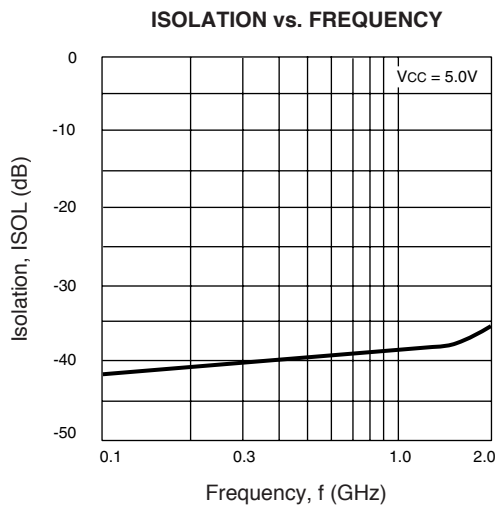
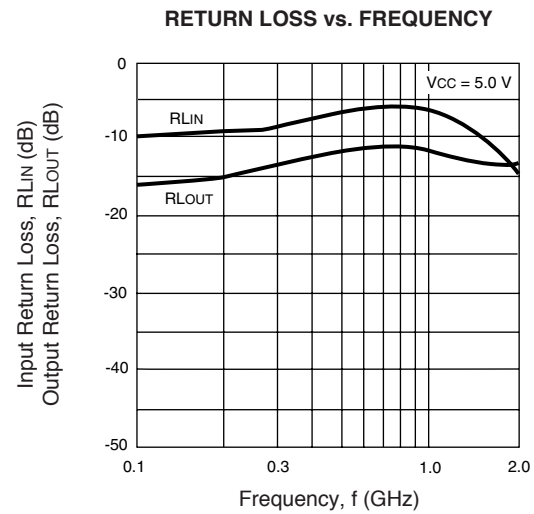
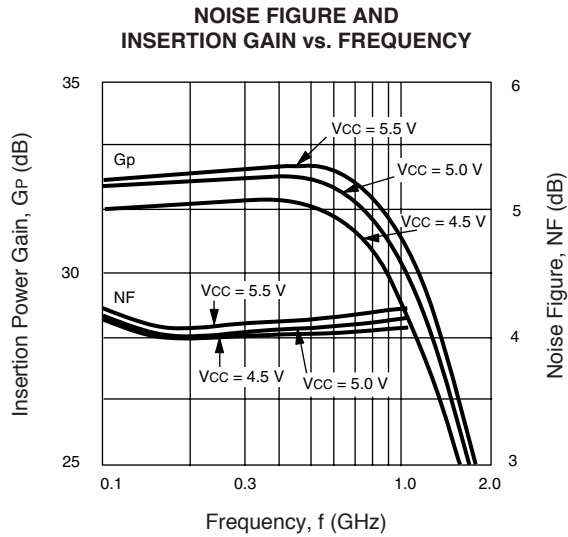
CIRCUIT CURRENT vs. VOLTAGE

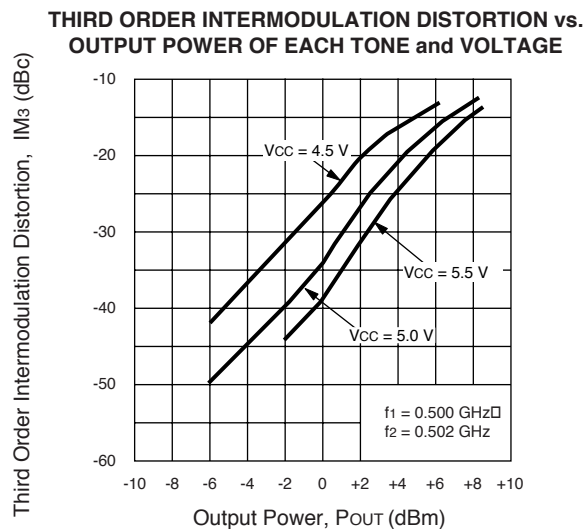
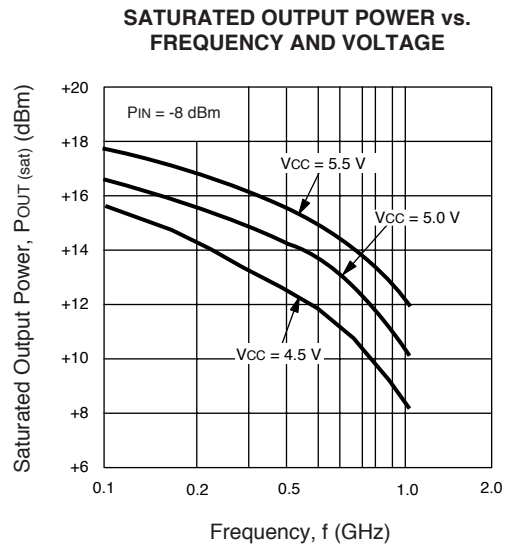
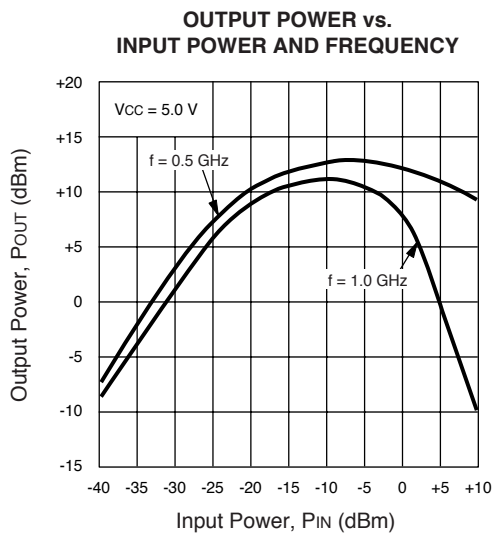
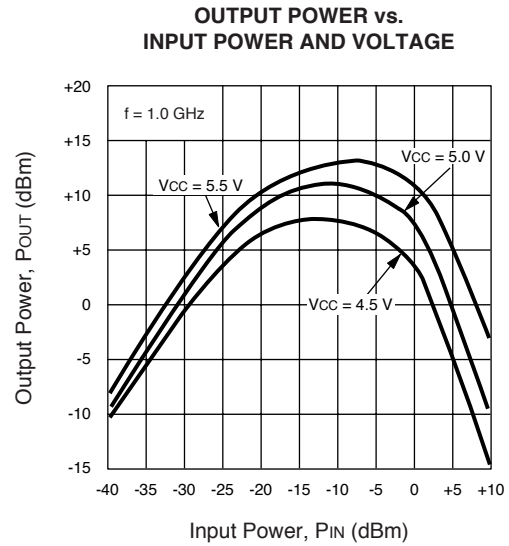
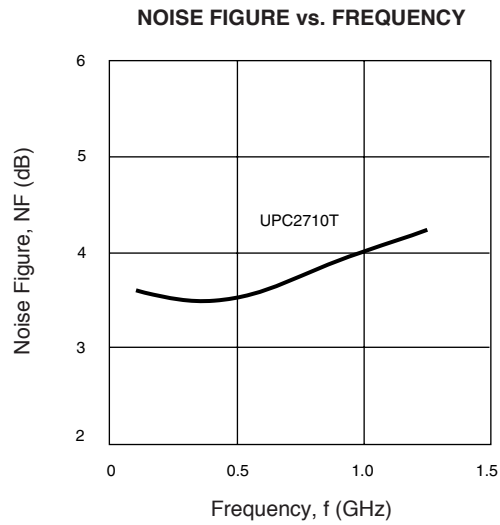


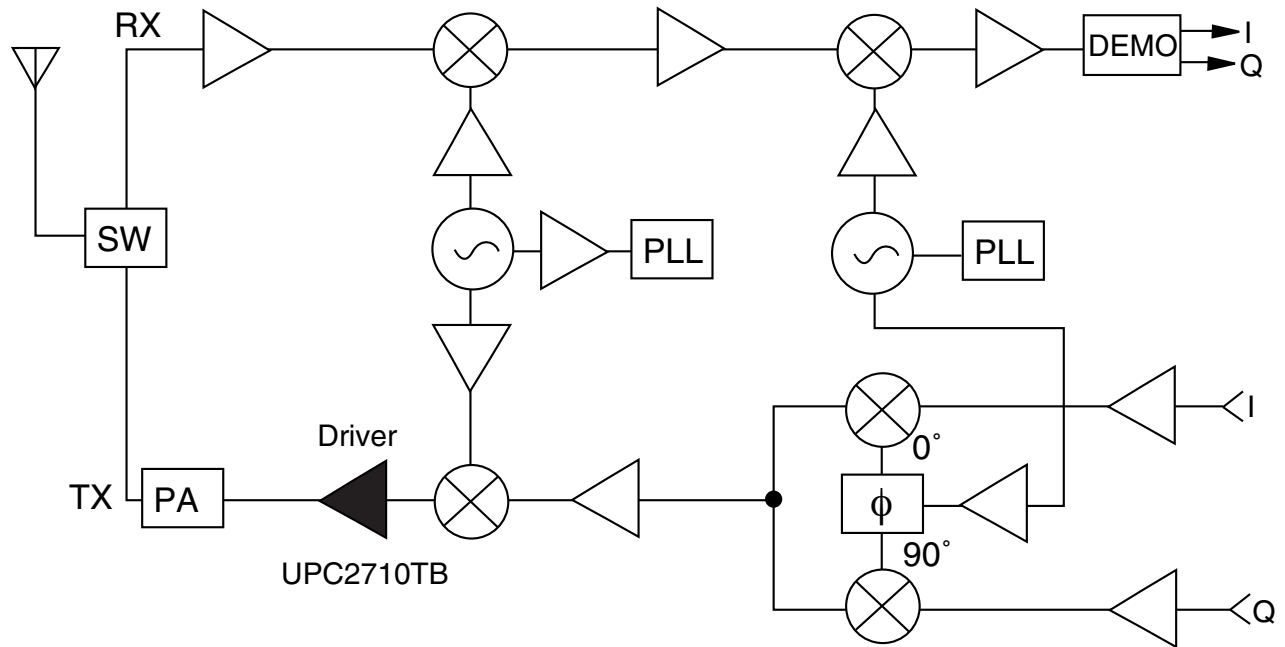
CIRCUIT CURRENT vs.
TEMPERATURE

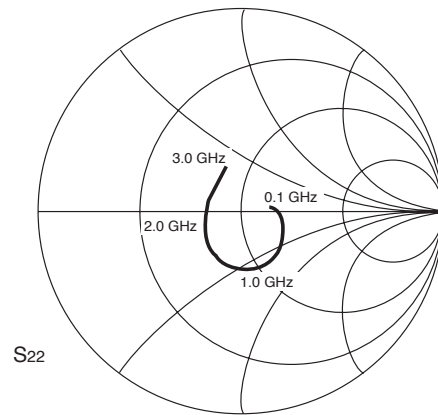
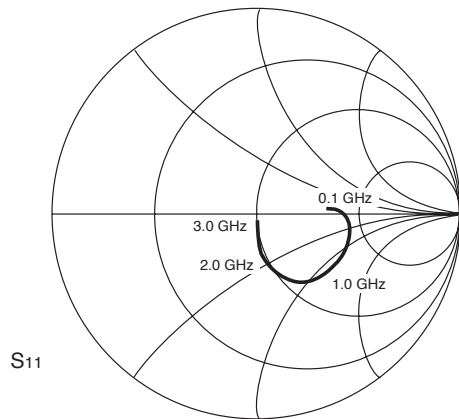


TYPICAL PERFORMANCE CURVES ($T_A = 25^\circ\text{C}$)



TYPICAL PERFORMANCE CURVES ($T_A = 25^\circ\text{C}$)

SYSTEM APPLICATION EXAMPLE**Example of 900 MHz Band Digital Cellular Telephone**

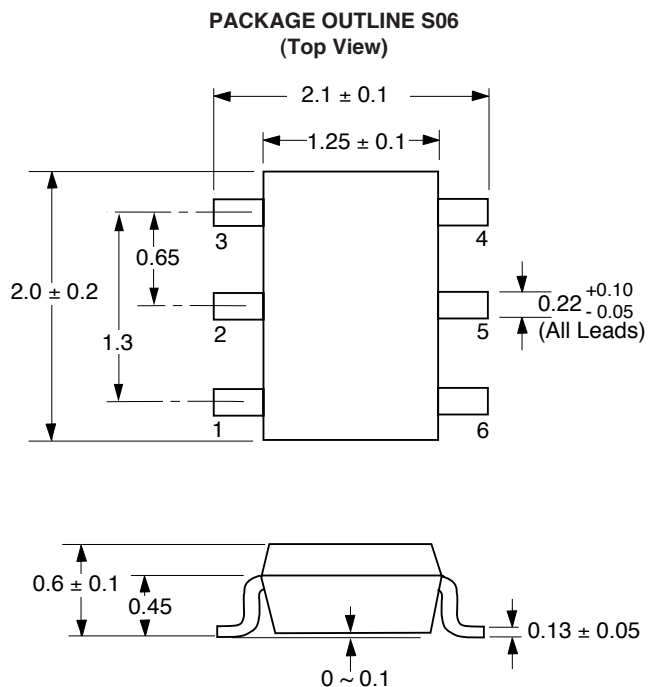
TYPICAL SCATTERING PARAMETERS (T_A = 25°C)

UPC2710TB

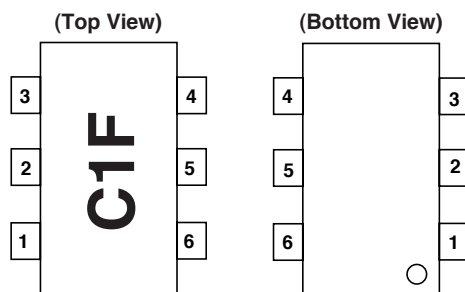
V_{CC} = V_{OUT} = 5 V, I_{CC} = 22 mA

FREQUENCY	S ₁₁		S ₂₁		S ₁₂		S ₂₂		K
GHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
0.1	0.306	2.5	43.072	-8.4	0.012	15.2	0.156	2.7	1.08
0.2	0.324	5.2	43.517	-17.1	0.010	10.7	0.164	2.1	1.17
0.3	0.356	5.3	44.432	-26.5	0.010	20.2	0.185	0.3	1.10
0.4	0.400	2.5	45.513	-36.9	0.012	26.9	0.225	-5.5	0.92
0.5	0.439	-3.3	45.679	-48.1	0.012	27.0	0.255	-15.4	0.85
0.6	0.469	-10.2	45.670	-59.7	0.013	31.3	0.283	-27.6	0.77
0.7	0.481	-17.9	44.793	-71.8	0.014	27.9	0.312	-54.9	0.74
0.8	0.488	-26.7	43.016	-84.3	0.014	34.9	0.301	-40.2	0.74
0.9	0.479	-34.5	40.519	-96.0	0.013	26.6	0.307	-92.2	0.85
1.0	0.465	-41.2	37.946	-107.3	0.016	30.8	0.311	-79.5	0.79
1.1	0.448	-49.3	35.122	-117.9	0.016	26.6	0.307	-92.2	0.85
1.2	0.417	-54.9	32.108	-128.0	0.015	39.5	0.282	-104.6	0.99
1.3	0.387	-61.2	29.221	-137.0	0.015	39.7	0.270	-115.5	1.12
1.4	0.350	-65.2	26.656	-145.8	0.015	50.2	0.248	-127.0	1.27
1.5	0.316	-70.8	23.895	-153.9	0.013	50.8	0.236	-136.2	1.56
1.6	0.292	-74.0	21.576	-161.6	0.016	56.6	0.215	-145.3	1.49
1.7	0.256	-76.9	19.567	-168.1	0.015	69.0	0.200	-155.2	1.71
1.8	0.245	-80.5	17.743	-174.4	0.018	61.7	0.196	-162.5	1.59
1.9	0.215	-82.9	16.040	179.6	0.017	70.0	0.180	-173.4	1.88
2.0	0.201	-85.6	14.717	173.5	0.021	71.2	0.175	-178.1	1.71
2.1	0.177	-84.4	13.475	168.8	0.020	83.0	0.166	172.0	1.94
2.2	0.161	-88.8	12.327	163.1	0.021	76.7	0.171	167.7	1.99
2.3	0.145	-88.7	11.154	158.7	0.022	87.9	0.159	159.7	2.08
2.4	0.124	-90.3	10.262	154.4	0.023	81.4	0.164	154.0	2.15
2.5	0.113	-89.8	9.490	150.4	0.025	91.9	0.158	147.0	2.19
2.6	0.107	-91.9	8.793	146.4	0.028	88.7	0.166	141.8	2.06
2.7	0.091	-92.2	8.149	142.4	0.030	93.4	0.175	135.7	2.13
2.8	0.081	-94.9	7.652	138.9	0.031	92.1	0.183	131.6	2.13
2.9	0.067	-97.4	7.134	135.1	0.031	93.0	0.191	123.4	2.26
3.0	0.055	-103.8	6.726	131.5	0.039	88.3	0.200	118.9	1.97
3.1	0.039	-95.6	6.295	128.4	0.039	89.6	0.203	111.5	2.08

OUTLINE DIMENSIONS (Units in mm)

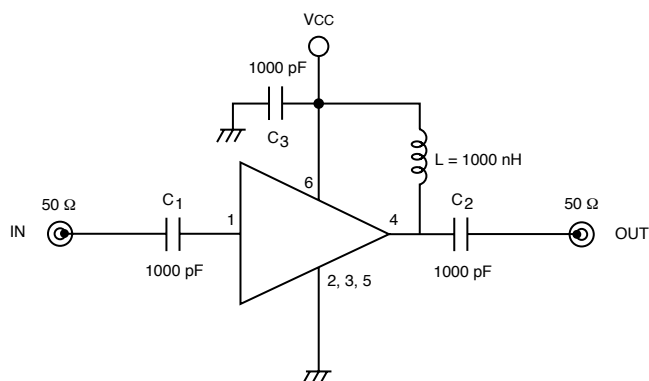


PIN CONNECTIONS

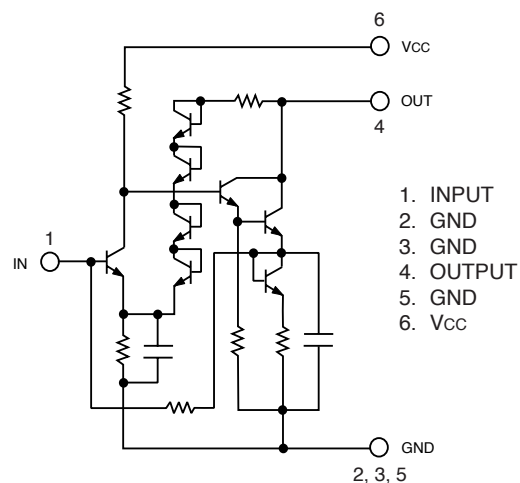


1. INPUT
2. GND
3. GND
4. OUTPUT
5. GND
6. Vcc

TEST CIRCUIT



EQUIVALENT CIRCUIT



ORDERING INFORMATION

PART NUMBER	MARKING	QTY
UPC2710TB-E3-A	C1F	3K/Reel

Note:

Embossed Tape, 8 mm wide. Pins 1, 2 and 3 face perforated side of tape.

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07/17/2000