



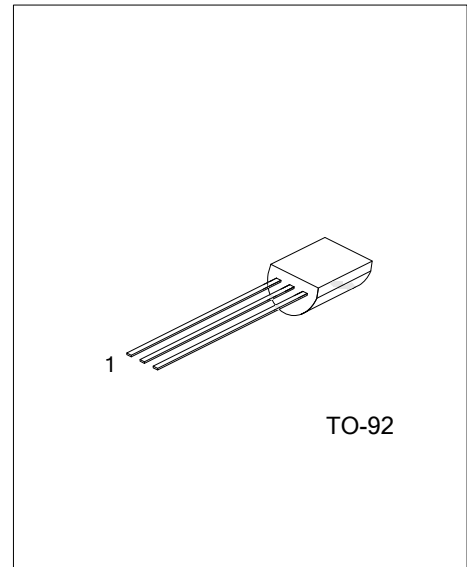
MPSH10

NPNEPITAXIAL SILICON TRANSISTOR

RF TRANSISTOR

DESCRIPTION

The UTC **MPSH10** is desinged for using as VHF and UHF oscillators and VHF Mixer in a tuner of a TV receiver.



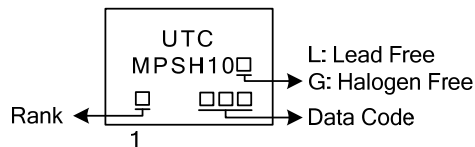
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MPSH10L-x-T92-B	MPSH10G-x-T92-B	TO-92	E	B	C	Tape Box
MPSH10L-x-T92-K	MPSH10G-x-T92-K	TO-92	E	B	C	Bulk

Note: Pin Assignment: E: Emitter C: Collector B: Base

MPSH10L-x-T92-B (1)Packing Type (2)Package Type (3)Rank (4)Lead Free	(1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) x: refer to Classification of h_{FE} (4) L: Lead Free, G: Halogen Free
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MARKING



■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	3	V
Total Power Dissipation	P_C	350	mW
Collector Current	I_C	50	mA
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

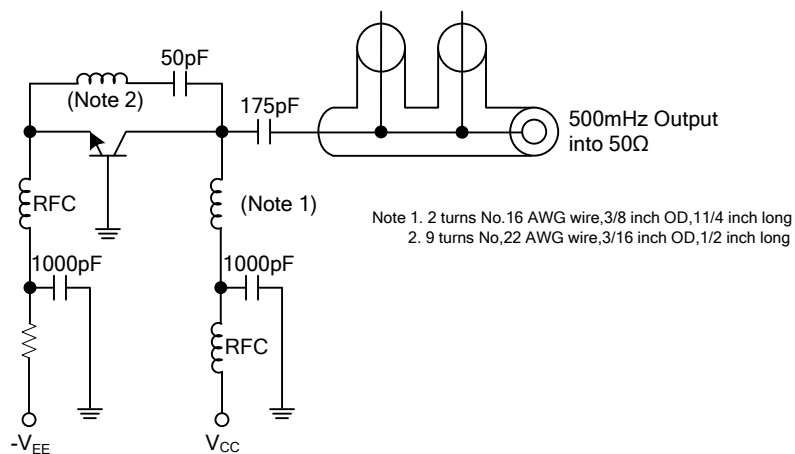
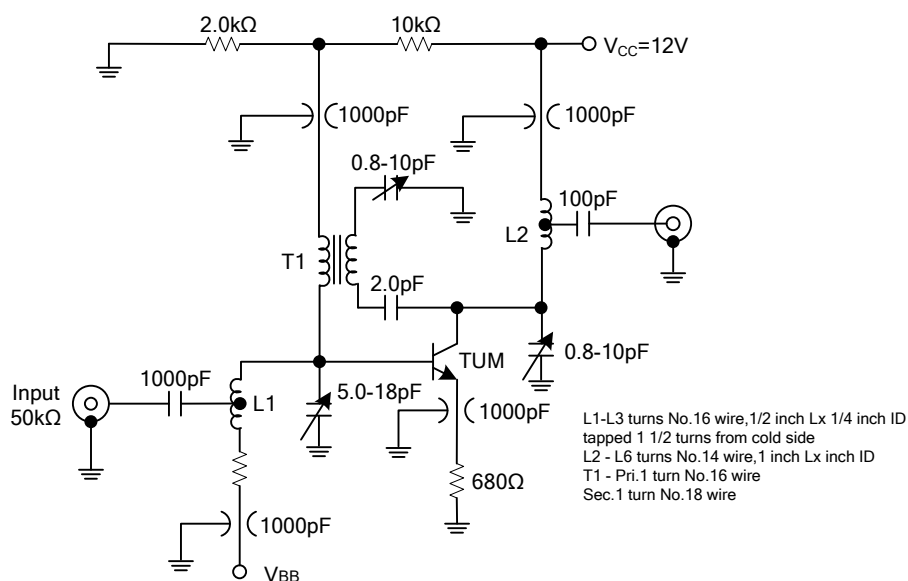
■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$	25			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu\text{A}$			3	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=25\text{V}$			100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=2\text{V}$			100	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=4\text{mA}$, $I_B=400\mu\text{A}$			500	mV
Base-Emitter On Voltage	$V_{BE(ON)}$	$V_{CE}=10\text{V}$, $I_C=4\text{mA}$			950	mV
DC Current Gain	h_{FE}	$V_{CE}=10\text{V}$, $I_C=4\text{mA}$	60			
Output Capacitance	C_{OB}	$V_{CB}=10\text{V}$, $f=1\text{MHz}$			0.7	pF
Current Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}$, $I_C=4\text{mA}$, $f=100\text{MHz}$	650			MHz

■ **CLASSIFICATION OF h_{FE}**

RANK	A	B	C
RANGE	60-100	90-130	120 -200

■ TEST CIRCUIT



■ TEST CIRCUIT(Cont.)

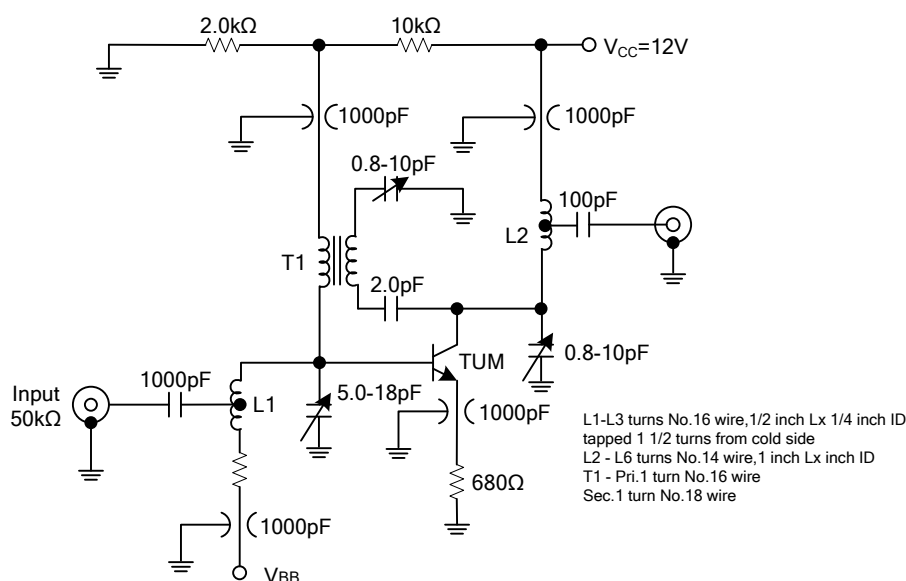


Figure 1. Neutralized 200 MHz PG and NF Circuit

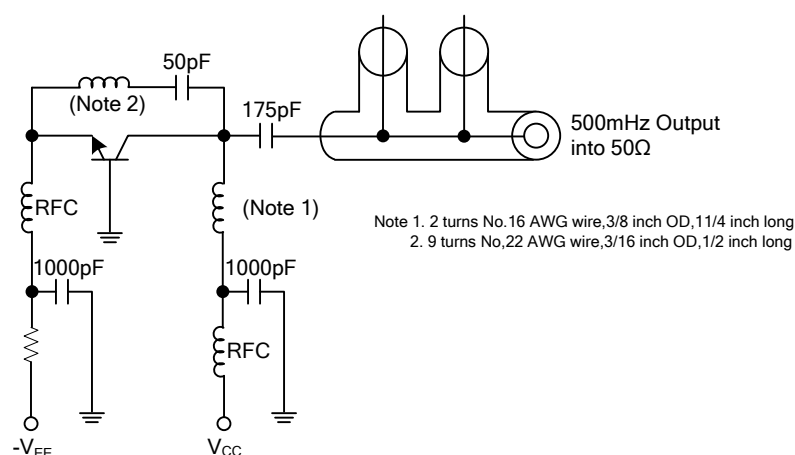


Figure 2. 500 MHz Oscillator Circuit

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