

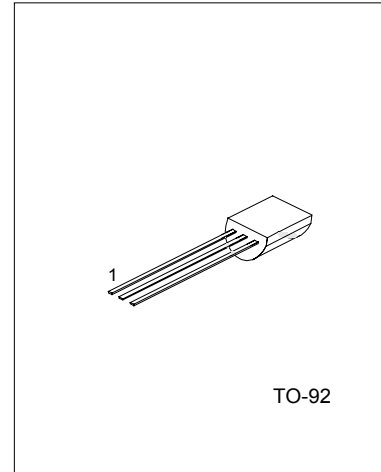
UTC9018

NPN EPITAXIAL PLANAR TRANSISTOR

AM/FM AMPLIFIER, LOCAL
OSCILLATOR OF FM/VHF
TUNER

FEATURES

*High Current Gain Bandwidth Product

 $f_T=1.1\text{GHz}$ (Typ)

1:EMITTER 2:BASE 3:COLLECTOR

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$, unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	400	mW
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$
Junction Temperature	T_j	150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	15			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$	5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=12\text{V}$, $I_E=0$			50	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$			0.5	V
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$	28	100	198	
Current Gain Bandwidth Product	f_T	$V_{CE}=5\text{V}$, $I_C=5\text{mA}$	700	1100		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		1.3	1.7	pF

CLASSIFICATION of h_{FE}

RANK	D	E	F	G	H	I
RANGE	28-45	39-60	54-80	72-108	97-146	132-198

UTC

UNISONIC TECHNOLOGIES CO. LTD

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QW-R201-025,A

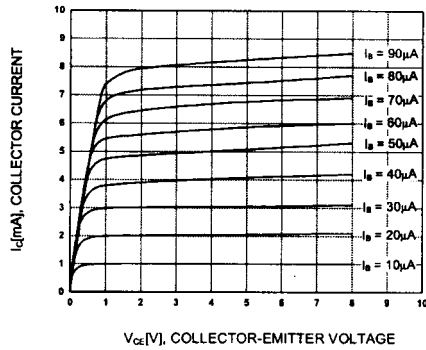


Figure 1. Static Characteristic

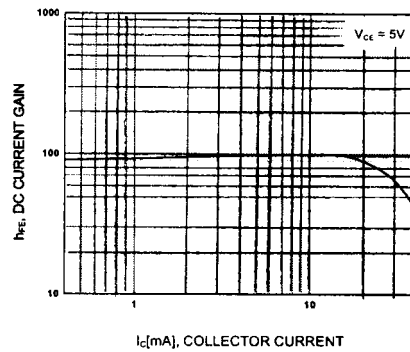


Figure 2. DC current Gain

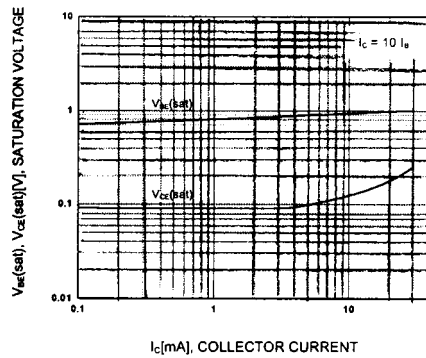
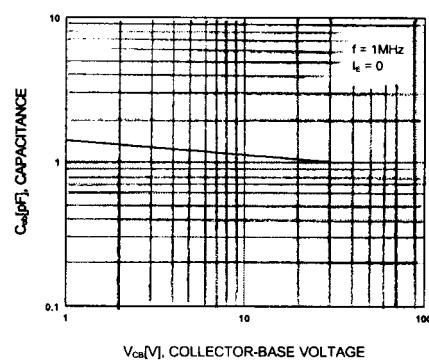
Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Figure 4. Output Capacitance

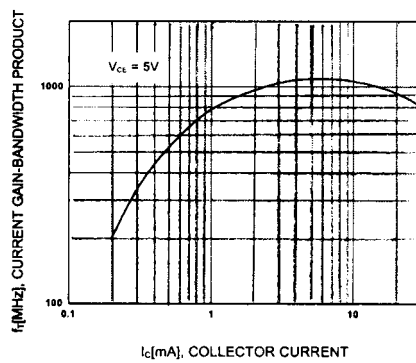


Figure 5. Current Gain Bandwidth Product

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