

## 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)



TO-92

1:EMITTER 2:BASE 3:COLLECTOR

### ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CB0}$	30	V
Collector-Emitter Voltage	$V_{CE0}$	15	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_C$	50	mA
Collector Power Dissipation	$P_C$	400	mW
Storage Temperature	$T_{MS}$	-55 ~ +150	°C
Junction Temperature	$T_J$	150	°C

### ELECTRICAL CHARACTERISTICS (Ta=25°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	$BV_{CEO}$	$I_C=1\text{mA}, I_E=0$	15			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CE}=12\text{V}, I_E=0$			50	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_E=1\text{mA}$			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	$C_{ob}$	$V_{CE}=10\text{V}, I_E=0, f=1\text{MHz}$		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

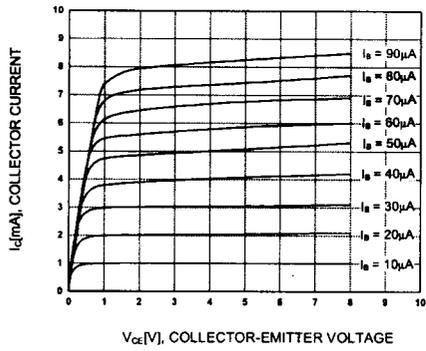


Figure 1. Static Characteristic

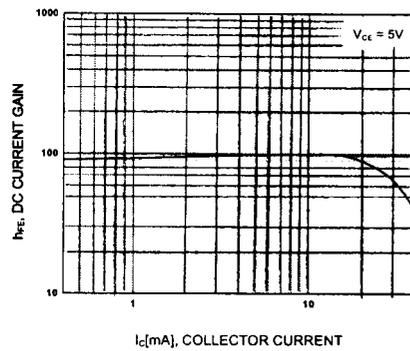


Figure 2. DC current Gain

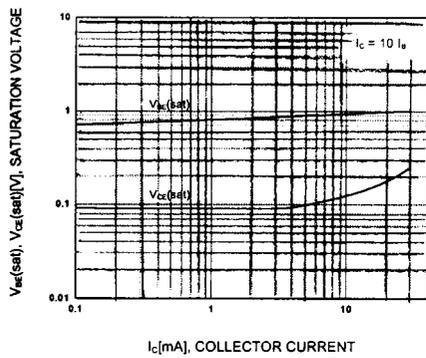


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

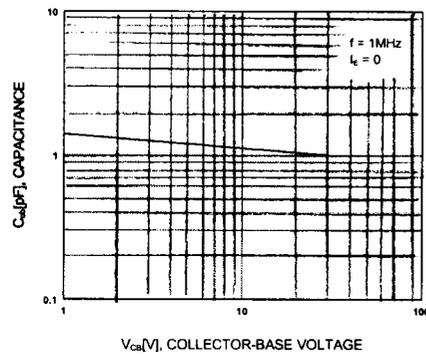


Figure 4. Output Capacitance

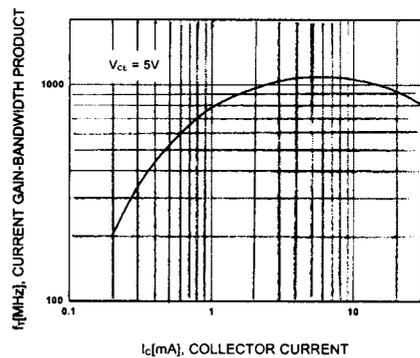


Figure 5. Current Gain Bandwidth Product

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