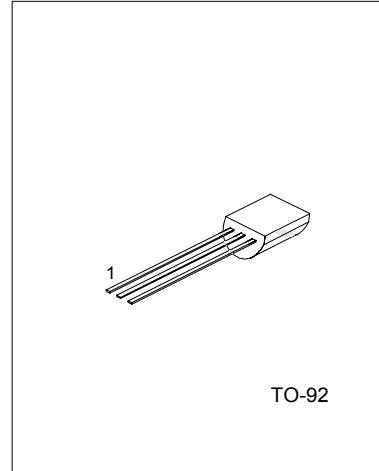


UTC BC546/547/548 NPN EPITAXIAL SILICON TRANSISTOR

SWITCHING AND AMPLIFIER APPLICATIONS

FEATURES

* High Voltage: BC546, $V_{CE0}=65V$



1: COLLECTOR 2: BASE 3: EMITTER

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

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	V_{CB0}		
: BC546		80	V
: BC547		50	V
: BC548		30	V
Collector-emitter voltage	V_{CE0}		
: BC546		65	V
: BC547		45	V
: BC548		30	V
Emitter-base voltage	V_{EB0}		
: BC546		6	V
: BC547		6	V
: BC548		5	V
Collector current (DC)	I_c	100	mA
Collector dissipation	P_c	500	mW
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature	T_{STG}	-65 ~ +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=30V, I_E=0$			15	nA
DC current gain	h_{FE}	$V_{CE}=5V, I_c=2mA$	110		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c=10mA, I_B=0.5mA$		90	250	mV
		$I_c=100mA, I_B=5mA$		200	600	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c=10mA, I_B=0.5mA$		700		mV
		$I_c=100mA, I_B=5mA$		900		mV
Base-emitter on voltage	$V_{BE(on)}$	$V_{CE}=5V, I_c=2mA$	580	660	700	mV
		$V_{CE}=5V, I_c=10mA$			720	mV

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PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Current gain bandwidth product	f_T	$V_{CE}=5V, I_C=10mA, f=100MHz$		300		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		3.5	6	pF
Input Capacitance	C_{ib}	$V_{EB}=0.5V, I_C=0, f=1MHz$		9		pF
Noise Figure	NF	$V_{CE}=5V, I_C=200\mu A, f=1KHz, R_G=2K\Omega$		2	10	dB

CLASSIFICATION OF h_{FE}

RANK	A	B	C
h_{FE}	110 - 220	200 - 450	420 - 800

TYPICAL CHARACTERISTICS

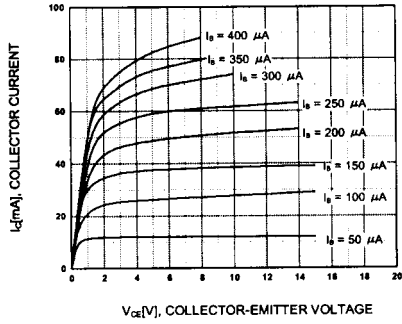


Figure 1. Static Characteristic

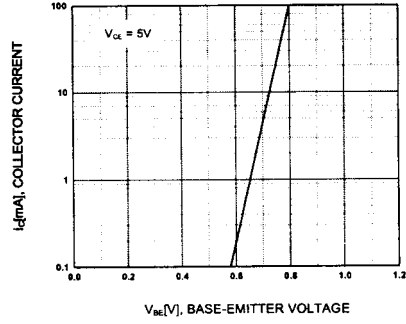


Figure 2. Transfer Characteristic

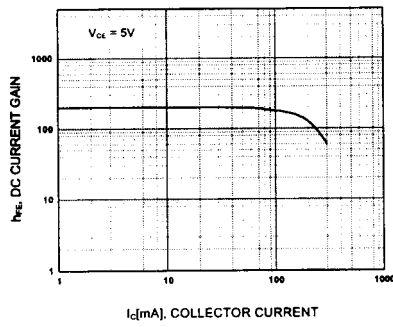


Figure 3. DC current Gain

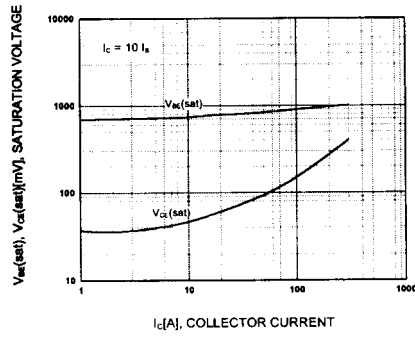


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

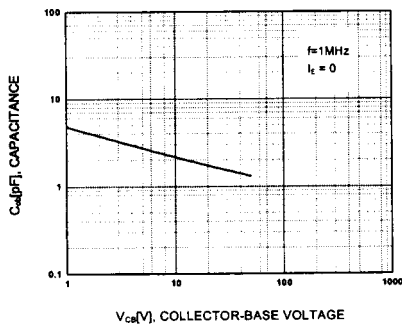


Figure 5. Output Capacitance

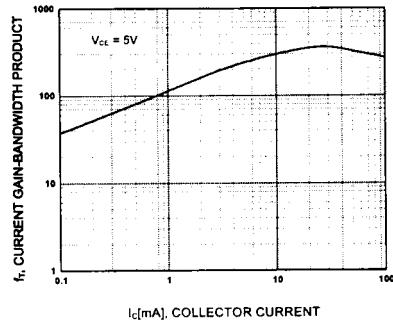


Figure 6. Current Gain Bandwidth Product

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