

### FEATURES

Complementary to A733

MARKING: CR



### C945 (NPN)



MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current -Continuous	I <sub>C</sub>	150	mA
Collector Power Dissipation	P <sub>C</sub>	0.4	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>CBO</sub>	I <sub>C</sub> =1mA, I <sub>E</sub> =0	60			V
Collector-emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> =100uA, I <sub>B</sub> =0	50			V
Emitter-base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> =100mA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CB</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0			0.1	uA
Collector cut-off current	I <sub>CE</sub>	V <sub>CE</sub> =45V			0.1	uA
Emitter cut-off current	I <sub>EB</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.1	uA
DC current gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	70		700	
	h <sub>FE</sub> (2)	V <sub>CE</sub> =6V, I <sub>C</sub> =0.1mA	40			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA			0.3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA			1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =10mA, f=30 MHz	200			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz			3.0	pF
Noise figure	NF	V <sub>CE</sub> =6V, I <sub>C</sub> =0.1mA R <sub>G</sub> =10kΩ, f=1kHz			10	dB

CLASSIFICATION OF h<sub>FE</sub>

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

**C945** Typical Characteristics

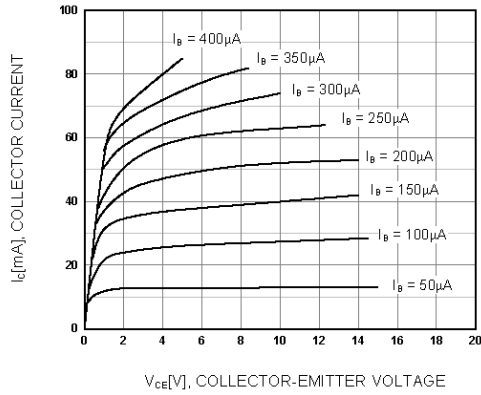


Figure 1. Static Characteristic

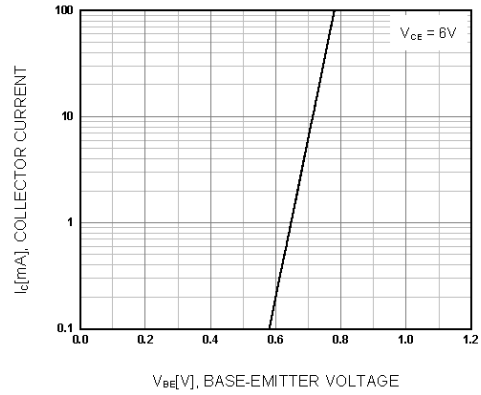


Figure 2. Transfer Characteristic

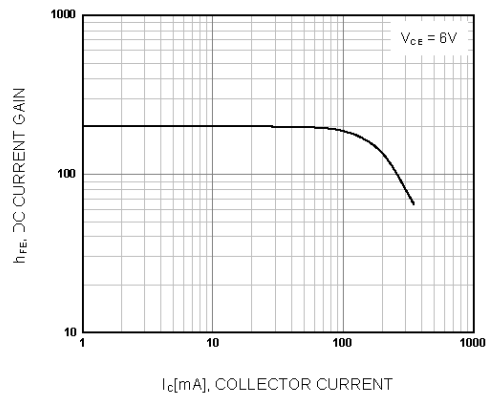


Figure 3. DC current Gain

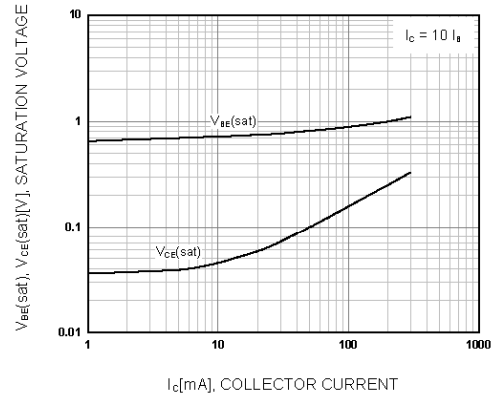


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

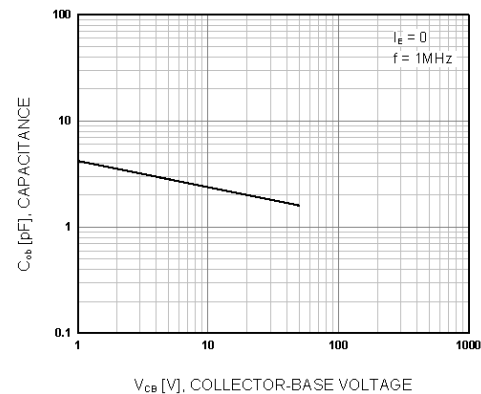


Figure 5. Output Capacitance

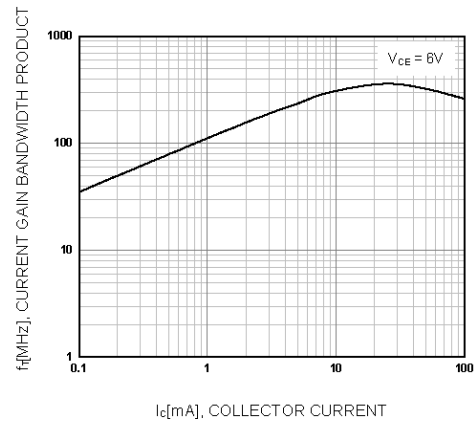


Figure 6. Current Gain Bandwidth Product