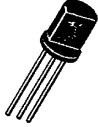


Silicon Transistors



TO-98

This GE/RCA series of economy transistors are planar epitaxial passivated PNP silicon devices. These units feature low collector saturation voltage, good current gain linearity over a wide collector current range, high gain-bandwidth

product, and low noise. These characteristics make these units excellent for use in general purpose consumer and industrial amplifier and switching applications. These types are supplied in JEDEC TO-98 package.

Devices in TO-98 package are supplied with and without seating flange (see Dimensional Outline).

MAXIMUM RATINGS, Absolute-Maximum Values:

COLLECTOR TO EMITTER VOLTAGE (V_{CE0})	40 V
COLLECTOR TO BASE VOLTAGE (V_{CBO})	4 V
EMITTER TO BASE VOLTAGE (V_{EBO})	40 V
CONTINUOUS COLLECTOR CURRENT (I_C)	300 mA
COLLECTOR CURRENT (Pulsed) (I_C)	700 mA
TOTAL POWER DISSIPATION ($T_A \leq 25^\circ\text{C}$)**	360 mW
TOTAL POWER DISSIPATION ($T_A \leq 55^\circ\text{C}$)**	260 mW
OPERATING TEMPERATURE (T_J)	- 65 to + 125 °C
STORAGE TEMPERATURE (T_{STG})	- 65 to + 150 °C
LEAD TEMPERATURE, $1/16" \pm 1/32"$ (1.58mm \pm 0.8mm) from case at 10s max. (T_L)	+ 260 °C

* Pulsed conditions: 10 μ s pulse width, \leq 2% duty cycle.
 ** Derate 3.6mW/°C increase in ambient temperature above 25°C.

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ELECTRICAL CHARACTERISTICS, At Ambient Temperature (T_A) = 25°C Unless Otherwise Specified

CHARACTERISTICS	SYMBOL	LIMITS						UNITS
		2N5365			2N5366			
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
Collector-Emitter Breakdown Voltage ($I_C = 10\text{ mA}$)	$V_{(BR)CEO}$	-40	-	-	-40	-	-	V
Collector Cutoff Current ($V_{CE} = -40\text{ V}$)	I_{CBO}	-	-	-100	-	-	-100	nA
($V_{CE} = -40\text{ V}, T_A = 100^\circ\text{C}$)		-	-	-10	-	-	-10	
Cutoff Current ($V_{EB} = -4\text{ V}$)	I_{EBO}	-	-	-10	-	-	-10	μA
DC Forward Current Transfer Ratio ($V_{CE} = -10\text{ V}, I_C = -2\text{ mA}$)	h_{FE}	32	-	-	80	-	-	-
($V_{CE} = -10, I_C = -50\text{ mA}$)		40	-	120	100	-	300	
($V_{CE} = -5\text{ V}, I_C = -300\text{ mA}$)		20	-	-	40	-	-	
Small-Signal Forward Current Transfer Ratio ($V_{CE} = -10\text{ V}, I_C = -2\text{ mA}, f = 1\text{ kHz}$)	h_{fe}	32	-	180	80	-	450	-
Collector-Emitter Saturation Voltage ($I_C = -50\text{ mA}, I_B = -2.5\text{ mA}$)	$V_{CE(SAT)}$	-	-	-0.25	-	-	-0.25	V
($I_C = -300\text{ mA}, I_B = -30\text{ mA}$)	$V_{CE(SAT)}$	-	-	-1	-	-	-1	
Base-Emitter Voltage ($V_{CE} = -10\text{ V}, I_C = -2\text{ mA}$)	V_{BE}	-0.5	-	-0.8	-0.5	-	-0.8	
Output Capacitance, Common Base ($V_{EB} = -0.5\text{ V}, I_E = 0, f = 1\text{ MHz}$)	C_{cb}	-	-	8	-	-	8	pF
Input Capacitance, Common Base ($V_{EB} = -0.5\text{ V}, I_C = 0, f = 1\text{ MHz}$)	C_{sb}	-	-	35	-	-	35	
Gain Bandwidth Product ($V_{CE} = -10\text{ V}, I_C = -2\text{ mA}$)	f_T	-	250	-	-	250	-	MHz

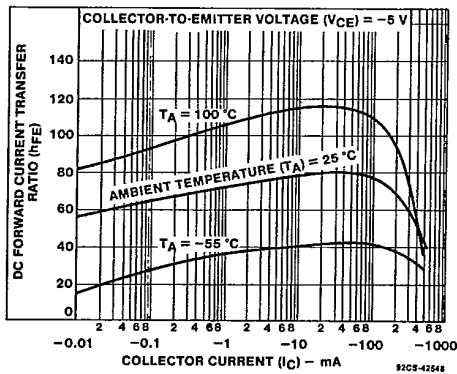


Fig. 1—Typical dc forward current transfer ratio characteristics for 2N5365.

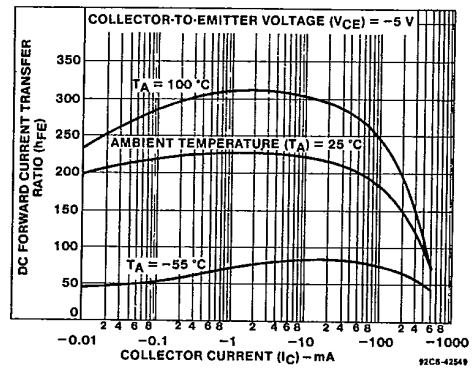


Fig. 2—Typical dc forward-current transfer ratio characteristics for 2N5366.

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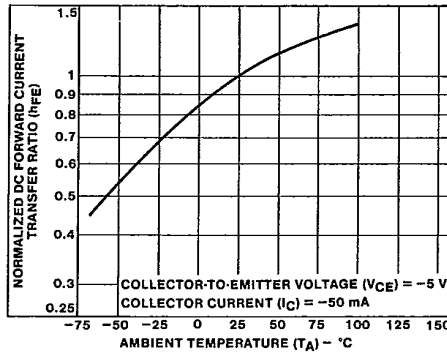


Fig. 3—Normalized dc forward-current transfer ratio characteristics for both types.

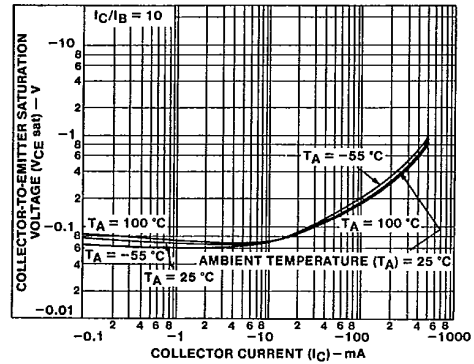


Fig. 4—Typical collector-to-emitter saturation voltage characteristics for 2N5366.

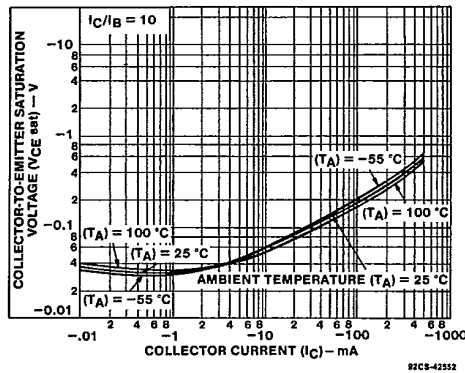


Fig. 5—Typical collector-to-emitter saturation voltage characteristics for 2N5366.

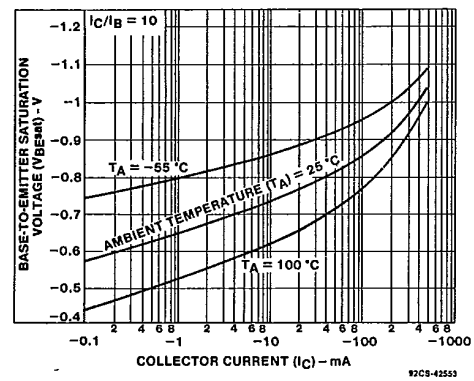


Fig. 6—Typical base-to-emitter saturation voltage characteristics for both types.

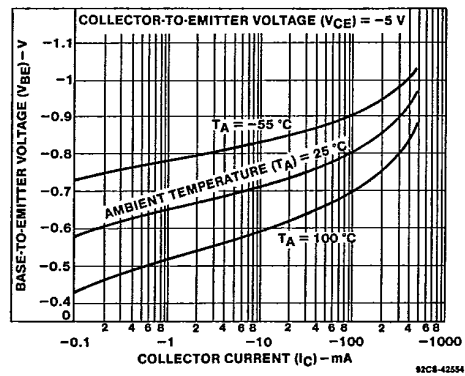


Fig. 7—Typical base-to-emitter voltage characteristics for 2N5366.

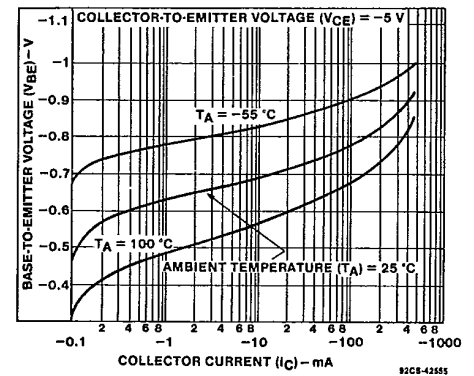


Fig. 8—Typical base-to-emitter voltage characteristics for 2N5365.

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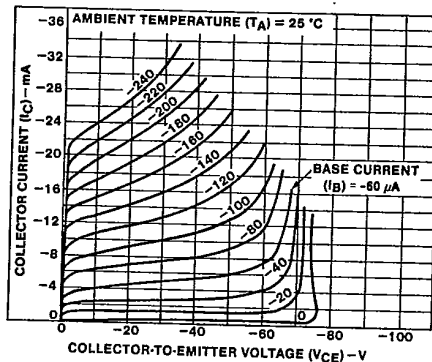


Fig. 9—Typical collector current characteristics for 2N5365.

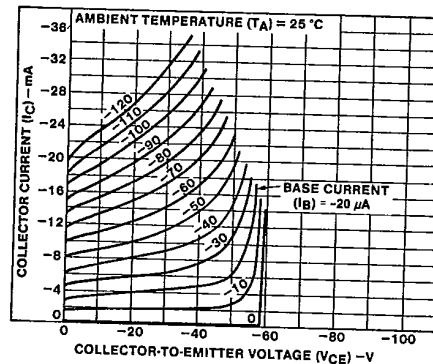


Fig. 10—Typical collector current characteristics for 2N5366.

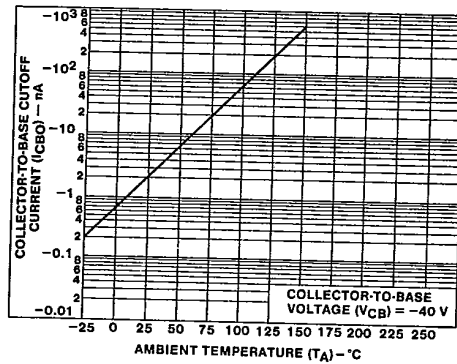


Fig. 11—Typical collector-to-base cutoff current characteristics for both types.

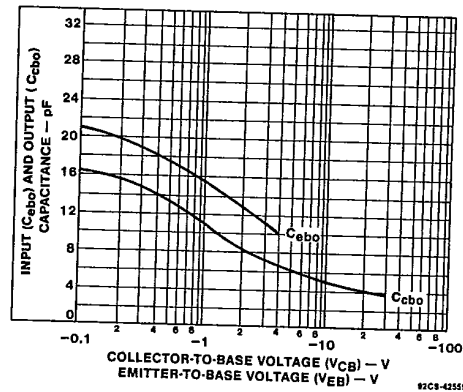


Fig. 12—Typical input and output capacitance characteristics for both types.

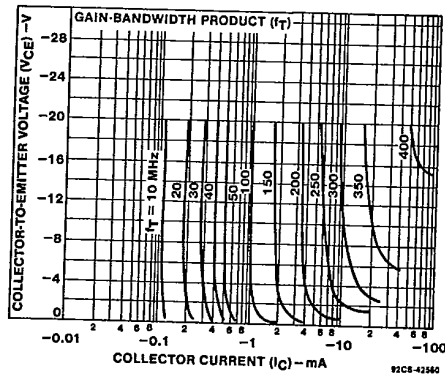


Fig. 13—Typical gain-bandwidth product characteristics for 2N5365.

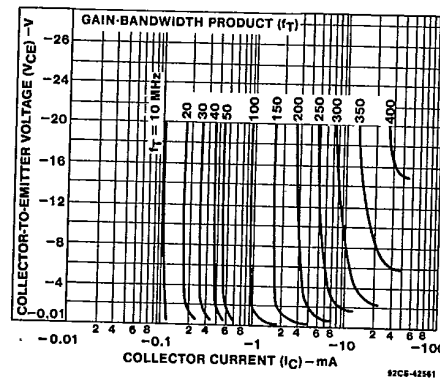


Fig. 14—Typical gain-bandwidth product characteristics for 2N5366.

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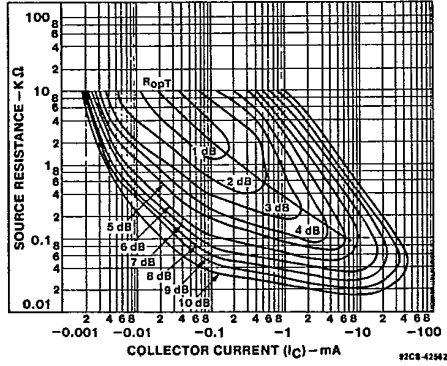


Fig. 15—Typical noise figure characteristics for 2N5365.

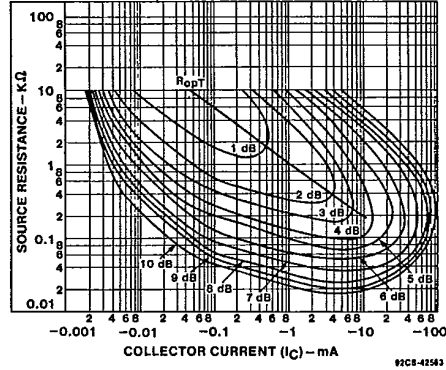


Fig. 16—Typical noise figure characteristics for 2N5366.

TERMINAL CONNECTIONS

- Lead 1 - Emitter
- Lead 2 - Collector
- Lead 3 - Base