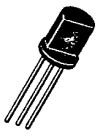
2N3390-94, 2N3391A

Silicon Transistors



TO-98

The GE/RCA 2N3390-94, 2N3391A are planar, passivated NPN silicon transistors designed for use in general-purpose and high gain amplifier or driver 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_{CEO}) ..... 25 V
EMITTER TO BASE VOLTAGE (V_{EBO}) ..... 5 V
COLLECTOR TO BASE VOLTAGE (V_{CBO}) ..... 25 V
CONTINUOUS COLLECTOR CURRENT (I_C) ..... 100 mA
TOTAL POWER DISSIPATION ($T_A \leq 25°C$) (P_T) ..... 350 mW
TOTAL POWER DISSIPATION ($T_C \leq 25°C$) (P_T) ..... 1 W
DERATE FACTOR ($T_A > 25°C$) ..... 2.8 mW/°C
DERATE FACTOR ($T_C > 25°C$) ..... 8 mW/°C
OPERATING TEMPERATURE (T_J) ..... −55° to +150°C
STORAGE TEMPERATURE (T_{STG}) ..... −55° to +150°C
LEAD TEMPERATURE, 1/16" ± 1/32" (1.58mm ± 0.8mm) from case for 10s max (T_L) ..... +260°C

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

CHARACTERISTICS	SYMBOL	LIMITS			UNITS
		MIN.	TYP.	MAX.	
Collector-Emitter Breakdown Voltage (I_C = 1 mA, I_B = 0)	BV_{CEO}	25	–	–	V
Collector-Base Breakdown Voltage (I_C = 0.1μA, I_E = 0)	BV_{CBO}	25	–	–	
Collector Cutoff Current (V_{CB} = 18V, I_E = 0)	I_{CBO}	–	–	0.1	μA
Emitter Cutoff Current (V_{EB} = 5V, I_C = 0)	I_{EBO}	–	–	0.1	
DC Forward Current Transfer Ratio (I_C = 2mA, V_{CE} = 4.5V)					–
3390	h_{FE}	400	–	800	
3391, 3391A		250	–	500	
3392		150	–	300	
3393		90	–	180	
3394		55	–	110	
Output Capacitance (V_{CB} = 10V, I_E = 0, f = 1MHz)	C_{ob}	–	2	10	pF
Noise Figure (I_C = 100μA, V_{CE} = 4.5V, R_S = 5000 Ω) For 2N3391A only	NF	–	1.9	5	dB

File Number **2053**

2N3390-94, 2N3391A

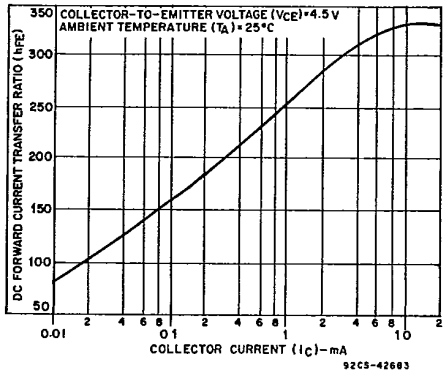


Fig. 1—Typical dc forward current transfer ratio characteristic for 2N3391 and 2N3391A.

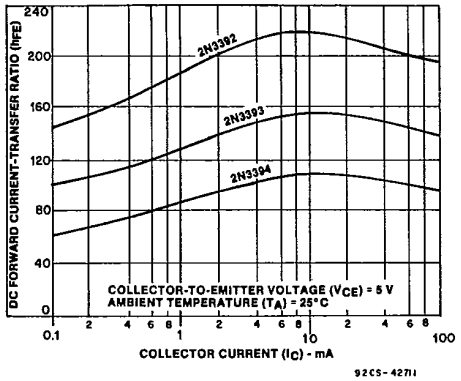


Fig. 2—Typical dc forward current transfer ratio characteristic for 2N3392, and 2N3393, and 2N3394.

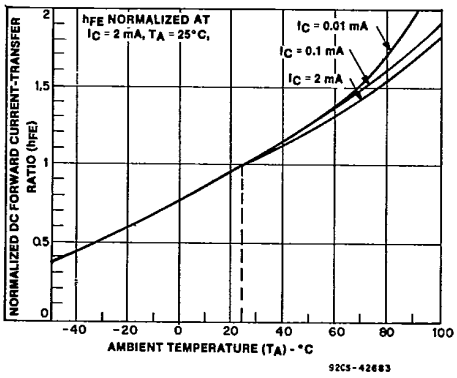


Fig. 3—Normalized dc forward current transfer ratio characteristics for 2N3391 and 2N3391A.

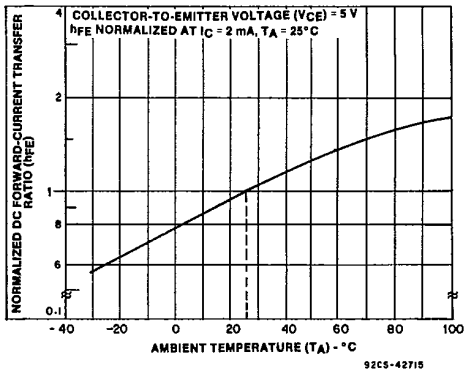


Fig. 4—Normalized dc forward current transfer ratio characteristics for 2N3392, 2N3393, and 2N3394.

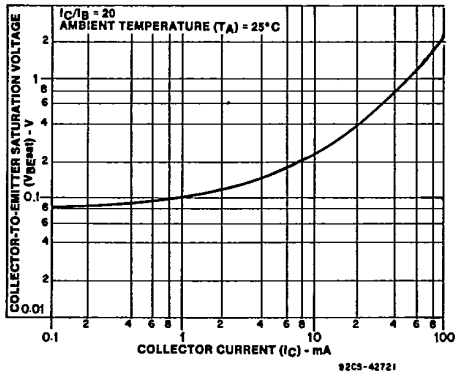


Fig. 5—Typical collector-to-emitter saturation voltage characteristic for 2N3392, 2N3393, and 2N3394.

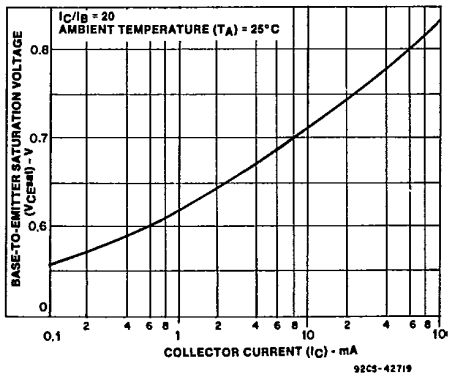


Fig. 6—Typical base-to-emitter voltage characteristic for 2N3392, 2N3393, and 2N3394.

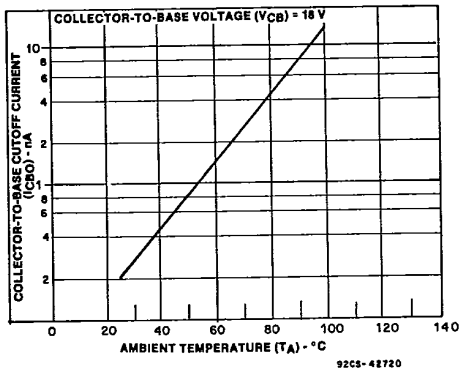


Fig. 7—Typical collector-to-base cutoff current characteristic for 2N3391, 2N3391A, 2N3392, 2N3393, and 2N3394.

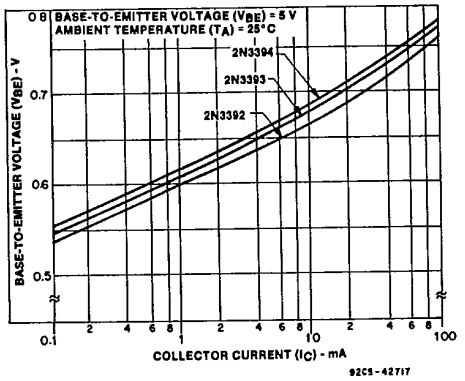


Fig. 8—Typical base-to-emitter voltage characteristic for 2N3392, 2N3393, and 2N3394.

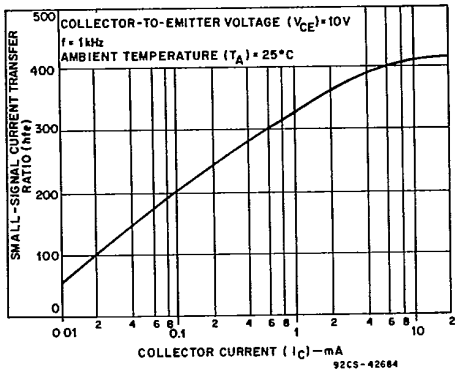


Fig. 9—Typical small-signal transfer ratio characteristic for 2N3391 and 2N3391A.

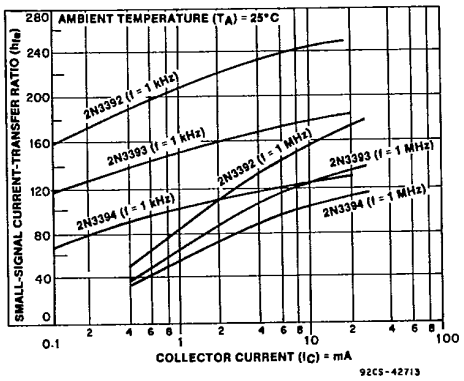


Fig. 10—Typical small-signal current tansfer ratio characteristic for 2N3392, 2N3393, and 2N3394.

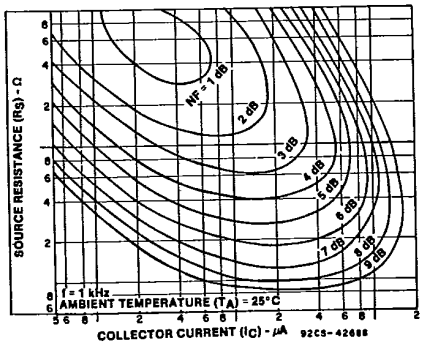


Fig. 11—Typical contours of constant noise figure for 2N3391 and 2N3391A.

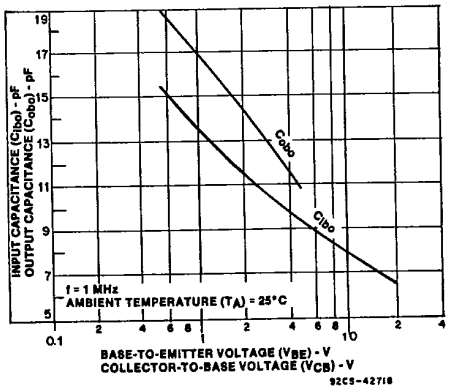


Fig. 12—Typical input, output capacitance characteristics for all types.

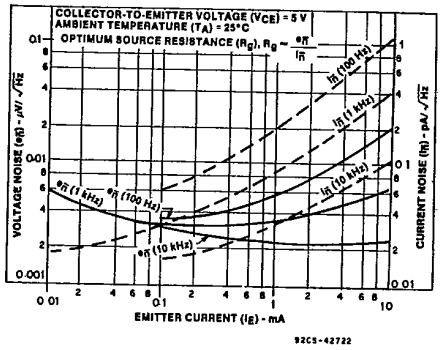


Fig. 13–Equivalent input noise-voltage and noise-current characteristics for 2N3392, 2N3393, and 2N3394.

TERMINAL CONNECTIONS

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