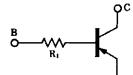


# COMPOUND TRANSISTOR BN1F4Z

# on-chip resistor PNP silicon epitaxial transistor For mid-speed switching

# FEATURES

 On-chip bias resistor (R1 = 22 kΩ)



### ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Complementary transistor with BA1F4Z

Parameter	Symbol	Ratings	Unit
Collector to base voltage	Vсво	-60	V
Collector to emitter voltage	VCEO	-50	V
Emitter to base voltage	VEBO	-5	V
Collector current (DC)	IC(DC)	-100	mA
Collector current (Pulse)	IC(pulse) *	-200	mA
Total power dissipation	Рт	250	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150 °C	

\* PW  $\leq$  10 ms, duty cycle  $\leq$  50 %

# ELECTRICAL CHARACTERISTICS (Ta = 25°C)

#### Conditions MIN. TYP. MAX. Parameter Symbol Unit Collector cutoff current $V_{CB} = -50 \text{ V}, \text{ IE} = 0$ 100 nA ICBO $V_{CE} = -5.0 \text{ V}, \text{ Ic} = -5.0 \text{ mA}$ DC current gain hfe1 \*\* 135 280 600 \_ hFE2 \*\* $V_{CE} = -5.0 \text{ V}, \text{ Ic} = -50 \text{ mA}$ 200 100 DC current gain \_ Collector saturation voltage VCE(sat) \*\* $I_{C} = -5.0 \text{ mA}, I_{B} = -0.25 \text{ mA}$ -0.06 -0.2 V VIL \*\* $V_{CE} = -5.0 \text{ V}, \text{ Ic} = -100 \ \mu\text{A}$ -0.57 -0.5 v Low level input voltage $V_{CE} = -0.2 V$ , $I_C = -5.0 mA$ High level input voltage VIH \*\* -3.0 -1.1 ٧ kO Input resistance R₁ 15.4 22 28.6 Turn-on time $V_{CC} = -5.0 \text{ V}, \text{ RL} = 1.0 \text{ k}\Omega$ ton 0.2 μs $V_{I} = -5.0 V$ , PW = 2.0 $\mu$ s Storage time 5.0 tstg μs duty cycle≤2 % Turn-off time toff 6.0 μs

\*\* Pulse test PW  $\leq$  350  $\mu$ s, duty cycle  $\leq$  2 %

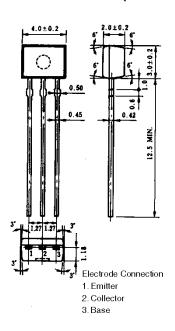
### **hfe CLASSIFICATION**

Marking	Q	Р	К
hfe1	135 to 270	200 to 400	300 to 600

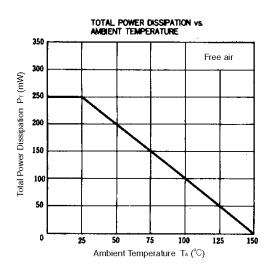
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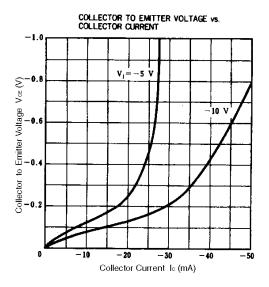
Not all devices/types available in every country. Please check with local NEC representative for availability and additional information.

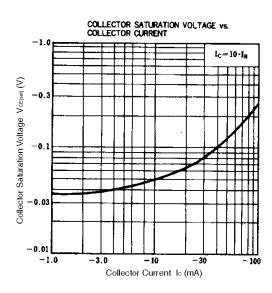
PACKAGE DRAWING (UNIT: mm)

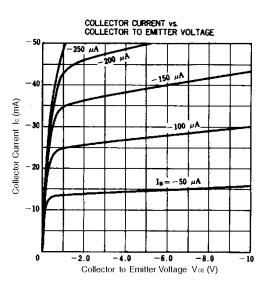


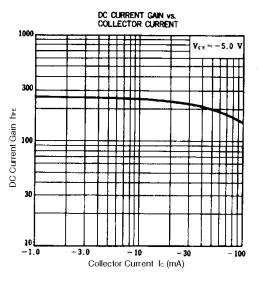
# TYPICAL CHARACTERISTICS (Ta = 25°C)



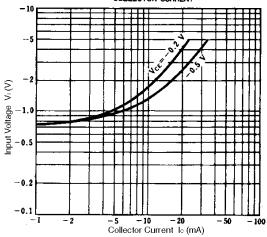


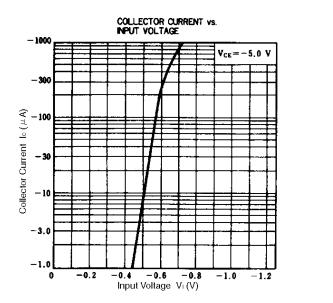


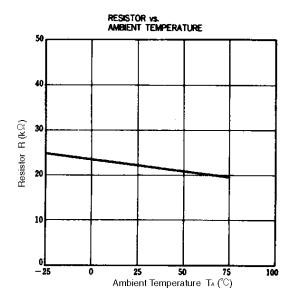












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