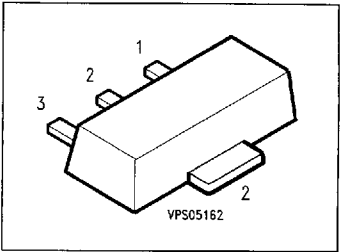


NPN Silicon RF Transistor

BFQ 64

- For low-distortion broadband amplifiers in antenna and telecommunications systems at collector currents from 70 mA to 150 mA.



Type	Marking	Ordering Code (tape and reel)	Pin Configuration			Package ¹⁾
			1	2	3	
BFQ 64	FC	Q62702-F1061	B	C	E	SOT-89

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CE0}	20	V
Collector-base voltage	V_{CB0}	30	
Emitter-base voltage	V_{EB0}	3	
Collector current	I_C	200	mA
Peak collector current, $f \geq 1$ MHz	I_{CM}	250	
Base current	I_B	25	
Total power dissipation, $T_A \leq 25$ °C ²⁾	P_{tot}	1	W
Junction temperature	T_j	150	°C
Ambient temperature range	T_A	- 65 ... + 150	
Storage temperature range	T_{stg}	- 65 ... + 150	

Thermal Resistance

Junction - ambient ²⁾	$R_{th JA}$	≤ 125	K/W
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¹⁾ For detailed information see chapter Package Outlines.

²⁾ Package mounted on alumina 15 mm × 16.7 mm × 0.7 mm.

Electrical Characteristicsat $T_A = 25^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Collector-emitter cutoff current $V_{CE} = 30\text{ V}, V_{BE} = 0$	I_{CES}	—	—	1	mA
Collector-base cutoff current $V_{CB} = 15\text{ V}, I_E = 0$	I_{CBO}	—	—	200	nA
Emitter-base cutoff current $V_{EB} = 2\text{ V}, I_C = 0$	I_{EBO}	—	—	10	μA
DC current gain $I_C = 120\text{ mA}, V_{CE} = 5\text{ V}$	h_{FE}	25	—	—	—

AC Characteristics

Transition frequency $I_C = 100\text{ mA}, V_{CE} = 5\text{ V}, f = 200\text{ MHz}$	f_T	—	3	—	GHz
Collector-base capacitance $V_{CB} = 10\text{ V}, V_{BE} = V_{be} = 0, f = 1\text{ MHz}$	C_{cb}	—	1	—	pF
Input capacitance $V_{EB} = 0.5\text{ V}, I_C = i_c = 0, f = 1\text{ MHz}$	C_{ibo}	—	11.5	—	
Power gain $I_C = 100\text{ mA}, V_{CE} = 10\text{ V}, f = 800\text{ MHz},$ $Z_S = Z_{Sopt}, Z_L = Z_{Lopt}$	G_{pe}	—	10	—	dB
Linear output voltage two-tone intermodulation test $I_C = 100\text{ mA}, V_{CE} = 10\text{ V}, d_{IM} = 60\text{ dB}$ $f_1 = 806\text{ MHz}, f_2 = 810\text{ MHz}, Z_S = Z_L = 50\ \Omega$	$V_{o1} = V_{o2}$	—	600	—	mV
Third order intercept point $I_C = 100\text{ mA}, V_{CE} = 10\text{ V}, f = 800\text{ MHz}$	IP_3	—	38.5	—	dBm

Total power dissipation $P_{\text{tot}} = f(T_A)$
Package mounted on alumina

