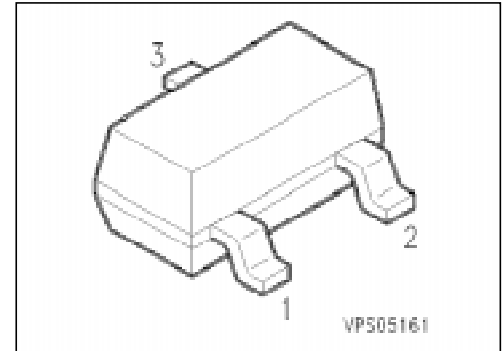


PNP Silicon RF Transistor

BF 569

- For oscillators, mixers and self-oscillating mixer stages in UHF TV tuners



Type	Marking	Ordering Code (tape and reel)	Pin Configuration			Package ¹⁾
			1	2	3	
BF 569	LHs	Q62702-F869	B	E	C	SOT-23

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CE0}	35	V
Collector-base voltage	V_{CB0}	40	
Emitter-base voltage	V_{EB0}	3	
Collector current	I_C	30	mA
Base current	I_B	5	
Total power dissipation, $T_A \leq 25\text{ °C}$	P_{tot}	280	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	- 55 ... + 150	

Thermal Resistance

Junction - ambient ²⁾	$R_{th\ JA}$	≤ 450	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 Characteristics

at $T_A = 25\text{ °C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

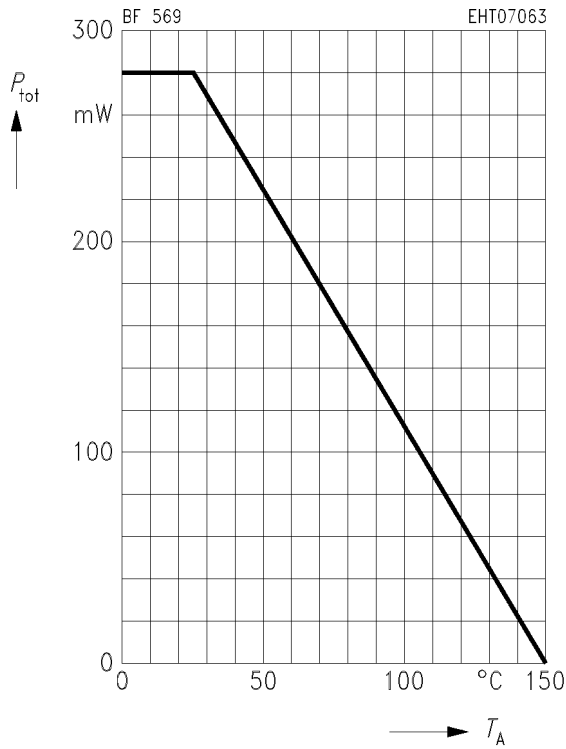
DC Characteristics

Collector-emitter breakdown voltage $I_C = 1\text{ mA}$, $I_B = 0$	$V_{(BR)CE0}$	35	–	–	V
Collector cutoff current $V_{CB} = 20\text{ V}$, $I_E = 0$	I_{CB0}	–	–	100	nA
DC current gain $I_C = 3\text{ mA}$, $V_{CE} = 10\text{ V}$	h_{FE}	20	50	–	–

AC Characteristics

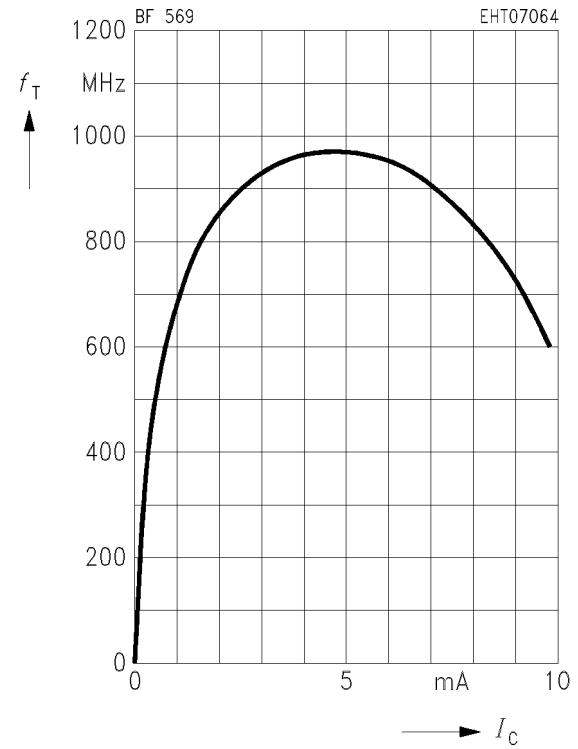
Transition frequency $I_C = 3\text{ mA}$, $V_{CE} = 10\text{ V}$, $f = 100\text{ MHz}$	f_t	–	950	–	MHz
Collector-base capacitance $V_{CB} = 10\text{ V}$, $V_{BE} = 0\text{ V}$, $f = 1\text{ MHz}$	C_{cb}	–	0.32	–	pF
Collector-emitter capacitance $V_{CE} = 10\text{ V}$, $V_{BE} = 0\text{ V}$, $f = 1\text{ MHz}$	C_{ce}	–	0.15	–	
Noise figure $I_C = 3\text{ mA}$, $V_{CB} = 10\text{ V}$, $f = 800\text{ MHz}$ $R_S = 60\text{ }\Omega$	F	–	4.5	–	dB
Common base power gain $I_C = 3\text{ mA}$, $V_{CB} = 10\text{ V}$, $f = 800\text{ MHz}$ $R_L = 500\text{ }\Omega$	G_p	–	14.8	–	

Total power dissipation $P_{tot} = f(T_A)$



Transition frequency $f_T = f(I_C)$

$V_{CE} = 10\text{ V}, f = 100\text{ MHz}$



Collector-base capacitance $C_{cb} = f(V_{CB})$

$f = 1\text{ MHz}$

