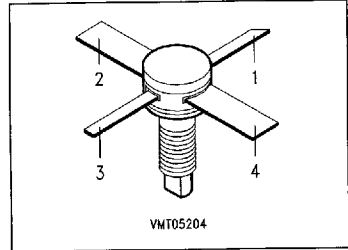


NPN Silicon RF Transistors

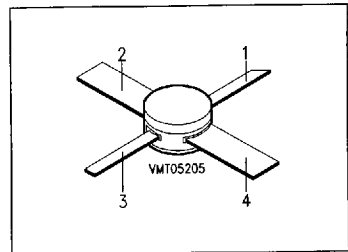
BFT 99
BFT 99A

- For low-distortion broadband amplifier output stages up to 1 GHz at collector currents up to 250 mA.
- With integrated emitter stabilizing resistors.



Type	Marking	Ordering Code	Pin Configuration				Package ¹⁾
			1	2	3	4	
BFT 99	BFT 99	Q62702-F524	C	E	B	E	TO-117

- For low-distortion broadband amplifier output stages up to 1 GHz at collector currents up to 250 mA.
- With integrated emitter stabilizing resistors.



Type	Marking	Ordering Code	Pin Configuration				Package ¹⁾
			1	2	3	4	
BFT 99A	BFT 99A	Q62702-F901	C	E	B	E	TO-117

1) For detailed information see chapter Package Outlines.

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CE0}	20	V
Collector-emitter voltage, $V_{BE} = 0$	V_{CES}	30	
Emitter-base voltage	V_{EB0}	3	
Collector current	I_C	350	mA
Peak collector current, $t \leq 100 \mu\text{s}$	I_{CM}	500	
Base current	I_B	50	
Total power dissipation, $T_C \leq 70 \text{ }^\circ\text{C}^1)$	P_{tot}	4	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	$R_{th JA}$	≤ 70	K/W
Junction - case (bottom plate)	$R_{th JC}$	≤ 20	

¹⁾ Packages mounted on alumina 15 mm × 16.7 mm × 0.7 mm.

Electrical Characteristics

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

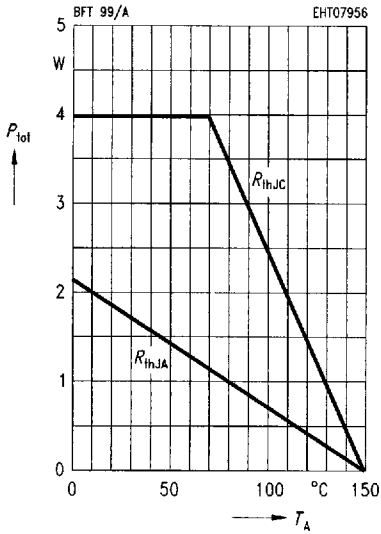
DC Characteristics

Collector-base cutoff current $V_{CB} = 15\text{ V}, I_E = 0$	I_{CB0}	–	–	200	nA
DC current gain $I_C = 200\text{ mA}, V_{CE} = 15\text{ V}$	h_{FE}	25	55	–	–

AC Characteristics

Transition frequency $I_C = 200\text{ mA}, V_{CE} = 15\text{ V}, f = 200\text{ MHz}$	f_T	2.5	3.3	–	GHz
Collector-base capacitance $V_{CB} = 15\text{ V}, V_{BE} = V_{\theta} = 0, f = 1\text{ MHz}$	C_{cb}	–	1.5	1.9	pF
Power gain $I_C = 240\text{ mA}, V_{CE} = 15\text{ V}, f = 800\text{ MHz},$ $Z_S = Z_{Sopt}, Z_L = Z_{Lopt}$	G_{po}	–	12	–	dB
Linear output voltage two-tone intermodulation test $I_C = 240\text{ mA}, V_{CE} = 15\text{ V}, d_{IM} = 60\text{ dB},$ $f_1 = 806\text{ MHz}, f_2 = 810\text{ MHz}, Z_S = Z_L = 50\text{ }\Omega$	$V_{o1} = V_{o2}$	–	1.4	–	V
Third order intercept point $I_C = 240\text{ mA}, V_{CE} = 15\text{ V}, f = 800\text{ MHz}$	IP_3	–	46	–	dBm

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



Operating range $I_C = f(V_{CE})$

$T_C = 70^\circ\text{C}$, $R_{thJC} \leq 20 \text{ K/W}$

