NPN Silicon RF Transistor

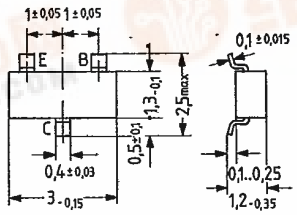
BFS 20
BFS 20 R

SIEMENS AKTIENGESELLSCHAF D-T-31-15

BFS 20 is an epitaxial NPN silicon planar RF transistor in TO 236 plastic package (23 A 3 DIN 41 869), intended for use in film circuits.

The transistor BFS 20 is marked "NA". It is also available upon request with changed terminal sequence (emitter and base terminal interchanged) under the designation BFS 20R (mark "NZ").

Type	Mark	Ordering code
BFS 20	NA	Q62702-F350
BFS 20 R	NZ	Q62702-F589



Approx. weight 0.02 g Dimensions in mm

Maximum ratings

Collector-emitter voltage	V_{CEO}	20	V
Collector-base voltage	V_{CBO}	30	V
Emitter-base voltage	V_{EBO}	4	V
Collector current	I_C	25	mA
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−65 to +125	°C
Total power dissipation (T_{SB} < 65 °C)	P_{tot}	150	mW

Thermal resistance

Junction to ambient air	R_{thJA}	520	K/W
Junction to substrate back[1)]	R_{thJSB}	410	K/W

1.) Ceramic substrate 0.7 mm; 2.5 cm^2 area

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Static characteristics (T_{amb} = 25°C)

Collector-emitter breakdown voltage (I_{CEO} = 2 mA)	$V_{(BR)CEO}$	≧20	V
Collector cutoff current (V_{CBO} = 20 V; T_j = 100°C)	I_{CBO}	<100	nA
	I_{CBO}	<10	µA
Base-emitter voltage (V_{CE} = 10 V; I_C = 7 mA)	V_{BE}	740 (≦900)	mV
DC current gain (V_{CE} = 10 V; I_C = 7 mA)	h_{FE}	85 (>40)	–

Dynamic characteristics (T_{amb} = 25°C)

Transition frequency (V_{CE} = 10 V; I_C = 5 mA; f = 100 MHz)	f_T	450 (>275)	MHz
Reverse transfer capacitance (V_{CE} = 10 V; I_C = 1 mA; f = 1 MHz)	C_{12e}	0.35	pF
Collector-base capacitance (V_{CB} = 10 V; f = 1 MHz)	C_{CBO}	0.8	pF

Total perm. power dissipation versus temperature