NPN Silicon RF Transistors

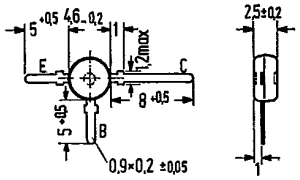
BF 362
BF 363

SIEMENS AKTIENGESELLSCHAF

for UHF TV tuners

BF 362 and BF 363 are NPN silicon planar RF transistors in a plastic package similar to TO 119 (50 B3 DIN 41867). BF 362 is particularly suitable for gain-controlled input stages, and BF 363 for self-oscillating mixer stages in TV UHF tuners.

Type	Ordering code
BF 362	Q62702-F395
BF 363	Q62702-F396



Approx. weight 0.25 g Dimensions in mm

Maximum ratings		BF 362, BF 363	
Collector-emitter voltage	V_{CEO}	20	V
Collector-base voltage	V_{CBO}	20	V
Emitter-base voltage	V_{EBO}	3	V
Collector current	I_C	20	mA
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55 to +125	°C
Total power dissipation ($T_{amb} \leq 55$ °C)	P_{tot}	120	mW
Thermal resistance			
Junction to ambient air	R_{thJA}	≦580	K/W
Static characteristics (T_{amb} = 25 °C)			
Base current (I_E = 3 mA; V_{CB} = 10 V)	I_B	<150	µA
Base current (I_E = 12 mA; V_{CB} = 7 V)	I_B	<1	mA
Base-emitter forward voltage (I_C = 2 mA; V_{CE} = 10 V)	V_{BE}	750	mV

Dynamic characteristics (T_{amb} = 25 °C)		BF 362	BF 363	
Transition frequency (I_C = 3 mA; V_{CE} = 10 V; f = 100 MHz)	f_T	800	600–820	MHz
Power gain (I_C = 3 mA; V_{CB} = 10 V; f = 900 MHz; R_g = 50 Ω; R_L = 500 Ω)	G_p	>11	>11	dB
Noise figure (I_C = 3 mA; V_{CB} = 10 V)				
at f = 500 MHz; Y_g = 16.7 mS	NF	4	4	dB
at f = 800 MHz; Y_g = 16.7 mS	NF	4.5	5	dB
Short-circuit reverse transfer capacitance (I_C = 1 mA; V_{CE} = 10 V; f = 1 MHz)	$-C_{12e}$	0.33	0.33	pF
Small-signal short-circuit reverse transfer admittance (I_C = 3 mA; V_{CB} = 10 V; f = 900 MHz)	$\lvert y_{12b} \rvert$	0.95	0.95	mS