PNP Germanium RF Transistor

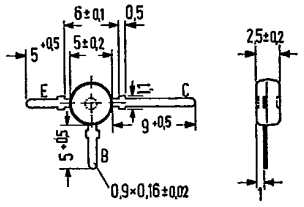
AF 379

SIEMENS AKTIENGESELLSCHAF

for large signal applications up to 900 MHz

AF 379 is a PNP germanium planar RF transistor in 50 B 3 DIN 41867 plastic package similar to TO 119. The transistor is particularly intended for non-regulated input stages of low cross modulation for use in TV tuners.

Type	Ordering code
AF 379	Q62701-F72



Approx. weight 0.25 g Dimensions in mm

Maximum ratings

Collector-emitter voltage	$-V_{CEO}$	13	V
Collector-emitter voltage ($R_{BE} \leq 500\ \Omega$)	$-V_{CER}$	20	V
Emitter-base voltage	$-V_{EBO}$	0.3	V
Collector current	$-I_C$	20	mA
Emitter current	I_E	20	mA
Junction temperature	T_j	90	°C
Storage temperature range	T_{stg}	−30 to +75	°C
Total power dissipation ($T_{amb} \leq 45$ °C)[1]	P_{tot}	100	mW

Thermal resistance

Junction to case	R_{thJC}	≤450	K/W

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

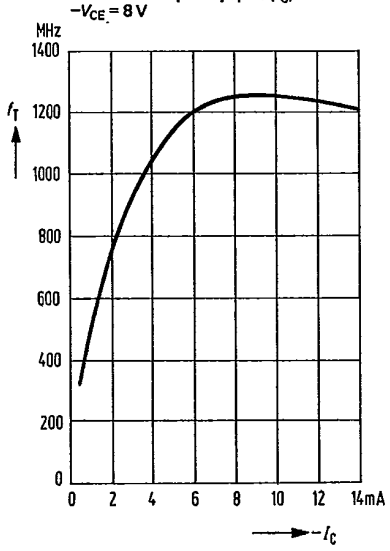
Collector-emitter breakdown voltage			
($-I_C$ = 500 µA)	$-V_{(BR)CEO}$	>13	V
($-I_C$ = 100 µA; R_{BE} = 500 Ω)	$-V_{(BR)CER}$	>20	V
Emitter-base breakdown voltage			
(I_E = 100 µA)	$-V_{(BR)EBO}$	>0.3	V
Collector cutoff current			
($-V_{CB}$ = 20 V)	$-I_{CBO}$	<15	µA
DC current gain			
($-I_C$ = 8 mA; $-V_{CE}$ = 8 V)	h_{FE}	80 (>25)	–

1) Heat dissipation via the soldered joint of the built-in collector

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

Transition frequency ($-I_C$ = 8 mA; $-V_{CE}$ = 8 V; f = 100 MHz)	f_T	1250	MHz
Output capacitance ($-V_{CB}$ = 8 V; f = 1 MHz)	C_{ob}	0.6	pF
Noise figure ($-I_C$ = 2 mA; $-V_{CE}$ = 10 V; f = 200 MHz); R_g = 60 Ω)	NF	2.5	dB
($-I_C$ = 8 mA; $-V_{CE}$ = 8 V; f = 800 MHz; R_g = 60 Ω)	NF	5	dB
Interference voltage[1] ($-I_C$ = 8 mA; $-V_{CE}$ = 8 V; f = 200 MHz; R_g = 60 Ω)	$V_{int1\%}$	250	mV
Power gain ($-I_C$ = 8 mA; $-V_{CE}$ = 8 V; f = 800 MHz; R_g = 60 Ω; R_L = 2 kΩ)	G_{pb}	18	dB

Transition frequency $f_T = f(I_C)$
$-V_{CE}$ = 8 V



1) V_{int} 1% is the rms value of the EMF of a 100% sine-wave modulated TV carrier with a generator resistance of 60 Ω which causes 1% amplitude modulation on the signal carrier.