

PNP Germanium RF Transistor

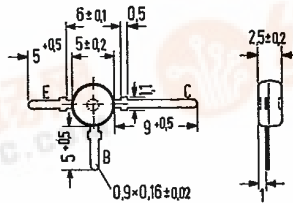
AF 379

SIEMENS AKTIENGESELLSCHAFT

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 ($T_{amb} \leq 45^\circ\text{C}$) ¹⁾	P_{tot}	100	mW

Thermal resistance

Junction to case	R_{thJC}	≤ 450	K/W
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Static characteristics ($T_{amb} = 25^\circ\text{C}$)

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

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



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Dynamic characteristics ($T_{amb} = 25^{\circ}\text{C}$)

Transition frequency

($-I_C = 8 \text{ mA}$; $-V_{CE} = 8 \text{ V}$; $f = 100 \text{ MHz}$)

Output capacitance
($-V_{CB} = 8 \text{ V}$; $f = 1 \text{ MHz}$)

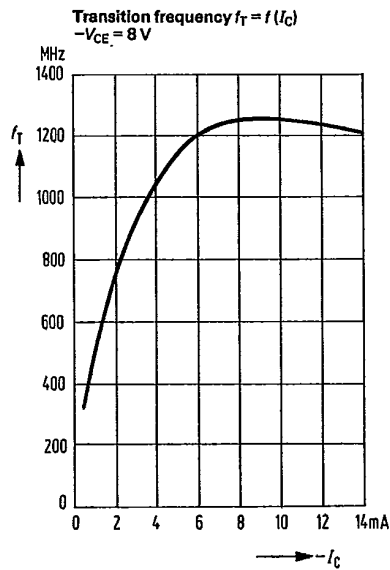
Noise figure
($-I_C = 2 \text{ mA}$; $-V_{CE} = 10 \text{ V}$; $f = 200 \text{ MHz}$);
 $R_g = 60 \Omega$)

($-I_C = 8 \text{ mA}$; $-V_{CE} = 8 \text{ V}$; $f = 800 \text{ MHz}$;
 $R_g = 60 \Omega$)

Interference voltage¹⁾
($-I_C = 8 \text{ mA}$; $-V_{CE} = 8 \text{ V}$; $f = 200 \text{ MHz}$;
 $R_g = 60 \Omega$)

Power gain
($-I_C = 8 \text{ mA}$; $-V_{CE} = 8 \text{ V}$; $f = 800 \text{ MHz}$;
 $R_g = 60 \Omega$; $R_L = 2 \text{ k}\Omega$)

f_T	1250	MHz
C_{ob}	0.6	pF
NF	2.5	dB
NF	5	dB
$V_{int1\%}$	250	mV
G_{pb}	18	dB



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