

PNP Germanium UHF Transistor

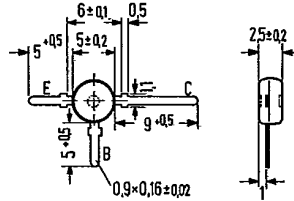
AF 289

SIEMENS AKTIENGESELLSCHAFT

T-31-07

AF 289 is a germanium PNP UHF planar transistor with passivated surface in low-capacitance 50 B 3 DIN 41 867 plastic package similar to TO 119. This transistor is particularly intended for use in low-noise regulated input stages up to 950 MHz in diode-tuned tuners.

Type	Ordering code
AF 289	Q62701-F92



Approx. weight 0.25 g Dimensions in mm

Maximum ratings

- Collector-emitter voltage
- Collector-base voltage
- Emitter-base voltage
- Collector current
- Emitter current
- Base current
- Junction temperature
- Storage temperature range
- Total power dissipation

$-V_{CEO}$	15	V
$-V_{CBO}$	20	V
$-V_{EBO}$	0.3	V
$-I_C$	10	mA
I_E	11	mA
$-I_B$	1	mA
T_j	96	°C
T_{stg}	-30 to +75	°C
P_{tot}	60	mW

Thermal resistance

- Junction to ambient air

R_{thJA}	< 600	K/W
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Static characteristics ($T_{amb} = 25^{\circ}\text{C}$)

DC current gain

($-I_C = 2 \text{ mA}; -V_{CE} = 10 \text{ V}$)

Collector cutoff current

($-V_{CBO} = 20 \text{ V}$)

h_{FE}	30 (>12)	-
I_{CBO}	<15	μA

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

Transition frequency

($-I_C = 3 \text{ mA}; -V_{CE} = 10 \text{ V}; f = 100 \text{ MHz}$)

Reverse transfer capacitance

($-V_{CE} = 1 \text{ V}; f = 1 \text{ MHz}$)

Collector-base capacitance

($-V_{CB} = 10 \text{ V}; f = 1 \text{ MHz}$)

Power gain

($-I_C = 3 \text{ mA}; -V_{CB} = 10 \text{ V}; f = 800 \text{ MHz};$

$R_L = 2 \text{ k}\Omega$)

Power gain

($-I_C = 3 \text{ mA}; -V_{CB} = 10 \text{ V}; f = 800 \text{ MHz};$

$R_L = 500 \text{ k}\Omega$)

Collector current for max. power gain

($V_{CC} = 12 \text{ V}; R_{CC} = 1 \text{ k}\Omega;$

$f = 800 \text{ MHz}$)

Noise figure

($-I_C = 3 \text{ mA}; -V_{CB} = 10 \text{ V}; f = 800 \text{ MHz};$

$R_g = 60 \Omega$)

Min. interference voltage¹⁾

($-V_{CC} = 12 \text{ V}; R_{CC} = 1 \text{ k}\Omega;$

$f_M = 200 \text{ MHz}; R_g = 75 \Omega$

$R_L = 900 \Omega$)

f_T	950	MHz
C_{12b}	50	fF
$-C_{CBO}$	0.4	pF
G_{pb}	19	dB
G_{pb}	12.5	dB
$I_{CGpbmax}$	>3	mA
NF	3.4 (<4.5)	dB
$V_{int1\%}$	20	mV

1) $V_{int} 1\%$ is the rms value of half the EMF of a 100% sine-wave modulated TV carrier with a generator resistance of 75Ω which causes 1% amplitude modulation on the signal carrier.