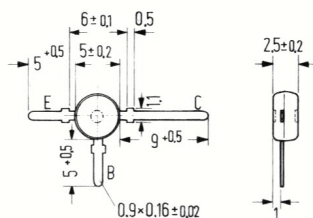


For mixer and oscillator stages up to 900 MHz

The AF 280 is a PNP germanium UHF transistor with passivated surface in a low capacitance package 50 B 3 DIN 41867 (T-package in plastic similar to TO-50). The transistor AF 280 is particularly suitable for use in mixer and oscillator stages in tuners up to 900 MHz using capacitance tuning diodes.

Type	Order number
AF 280	Q62701-F50



Weight approx. 0.25 g Dimensions in mm

Maximum ratings

Collector-emitter voltage	$-V_{CEO}$	15	V
Collector-emitter voltage	$-V_{CES}$	20	V
Emitter-base voltage	$-V_{EBO}$	0.3	V
Collector current	$-I_C$	10	mA
Emitter current	I_E	11	mA
Base current	$-I_B$	1	mA
Junction temperature	T_j	90	°C
Storage temperature	T_s	-30 to +75	°C
Total power dissipation	P_{tot}	60	mW

Thermal resistance

Junction to ambient air	R_{thJAmb}	≤ 600	K/W
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Static characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$)

$-V_{CE}$ V	$-I_C$ mA	$-I_B$ μA	h_{FE} I_C/I_B	$-V_{BE}$ mV
10	2	80	25 (> 10)	370

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

Collector-emitter cutoff current ($-V_{CES} = 20\text{ V}$)	$-I_{CES}$	1 (< 15)	μA
Collector-emitter cutoff current ($-V_{CEO} = 15\text{ V}$)	$-I_{CEO}$	< 500	μA
Emitter-base cutoff current ($-V_{EBO} = 0.3\text{ V}$)	$-I_{EBO}$	< 100	μA

Dynamic characteristics ($T_{amb} = 25^\circ\text{C}$)**Current gain-bandwidth product**($-I_C = 2\text{ mA}$; $-V_{CE} = 10\text{ V}$; $f = 100\text{ MHz}$)**Collector-base capacitance**($-V_{CB} = 10\text{ V}$; $f = 1\text{ MHz}$)**Power gain**($-I_C = 2\text{ mA}$; $-V_{CE} = 10\text{ V}$; $f = 800\text{ MHz}$; $R_L = 2\text{ k}\Omega$)**Power gain**($-I_C = 2\text{ mA}$; $-V_{CE} = 10\text{ V}$; $f = 800\text{ MHz}$; $R_L = 500\text{ }\Omega$)**Noise figure**($-I_C = 2\text{ mA}$; $-V_{CE} = 10\text{ V}$; $f = 800\text{ MHz}$; $R_g = 60\text{ }\Omega$)($-I_C = 2\text{ mA}$; $-V_{CE} = 10\text{ V}$; $f = 200\text{ MHz}$; $R_g = 60\text{ }\Omega$)

f_T	550	MHz
$-C_{CBO}$	0.42	pf
G_{pb}	14	db
G_{pb}	12	db
NF	7	db
NF	3	db

Four-pole characteristics: $-V_{CE} = 10\text{ V}$; $-I_C = 2\text{ mA}$ (terminal length $L = 1.5\text{ mm}$) $f = 200\text{ MHz}$ $g_{11b} = 50\text{ mmhos}$ | $y_{12b} = 0.18\text{ mmhos}$ | $y_{21b} = 55\text{ mmhos}$ $-b_{11b} = 33\text{ mmhos}$ | $- \varphi_{12b} = 90^\circ$ | $\varphi_{21b} = 130^\circ$ $g_{22b} = 0.03\text{ mmhos}$ $b_{22b} = 0.47\text{ mmhos}$ $f = 800\text{ MHz}$ $g_{11b} = 10\text{ mmhos}$ | $y_{12b} = 0.55\text{ mmhos}$ | $y_{21b} = 21\text{ mmhos}$ $-b_{11b} = 25\text{ mmhos}$ | $- \varphi_{12b} = 90^\circ$ | $\varphi_{21b} = 36^\circ$ $g_{22b} = 0.5\text{ mmhos}$ $b_{22b} = 2.5\text{ mmhos}$ www.datasheetcatalog.com**Measuring circuit for power gain and noise figure at $f = 800\text{ MHz}$** 