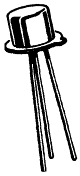
2N3323 (GERMANIUM)
2N3324
2N3325



CASE 22
(TO-18)

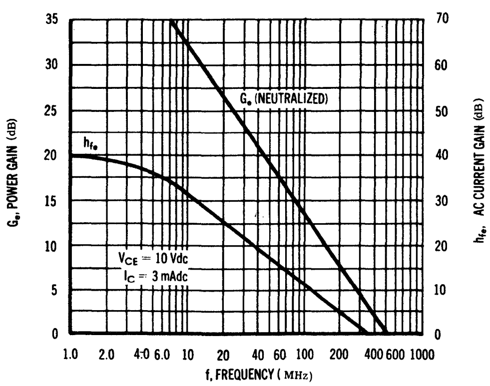
Collector connected to case

PNP germanium epitaxial transistors for FM RF, IF, mixer and oscillator and AM RF, IF and converter applications.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CB}	35	Vdc
Collector-Emitter Voltage	V_{CES}	35	Vdc
Emitter-Base Voltage	V_{EB}	3.0	Vdc
Collector Current	I_C	100	mA
Total Device Dissipation 25°C Case Temperature Derate Above 25°C	P_D	 300 4.0	 mW mW/°C
Total Device Dissipation 25°C Ambient Temperature Derate Above 25°C	P_D	 150 2.0	 mW mW/°C
Junction Temperature	T_J	+100	°C
Storage Temperature Range	T_{stg}	-65 to +100	°C

POWER GAIN AND AC CURRENT GAIN versus FREQUENCY



2N3323 thru 2N3325 (Continued)

ELECTRICAL CHARACTERISTICS ($T_A = 25^oC$ unless otherwise noted)

Characteristic	Symbol	Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CER}	$I_C = 100\ \mu Adc$, $R_{BE} = 10K$	35	40	--	Vdc
Collector-Emitter Current	I_{CES}	$V_{CE} = 35$ Vdc, $V_{BE} = 0$	--	--	100	µAdc
Collector Cutoff Current	I_{CBO}	$V_{CB} = 10$ Vdc, $I_E = 0$	--	0.5	10	µAdc
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 2$ Vdc, $I_C = 0$	--	--	100	µAdc
DC Current Gain	h_{FE}	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc	30	--	200	--
AC Current Gain	h_{fe}	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 1 kHz	30	--	225	--
Current-Gain — Bandwidth Product	f_T	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 100 MHz	200	--	600	MHz
Collector-Base Time Constant	$r_b'C_C$	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 31.8 MHz	--	50	100	ps
Output Capacitance	C_{ob}	$V_{CB} = 10$ Vdc, $I_E = 0$, f = 100 kHz	--	2.2	3.0	pF
Maximum Frequency of Oscillation	f_{max}	$V_{CE} = 10$ Vdc, $I_C = 3$mAdc	--	500	--	MHz
Input Resistance, Parallel Equivalent	R_{ie}	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 10 MHz	--	1200	--	ohms
Output Resistance, Parallel Equivalent	R_{oe}	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 10 MHz	--	11	--	kohms
Input Resistance, Parallel Equivalent	R_{ie}	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 100 MHz	--	100	--	ohms
Output Resistance, Parallel Equivalent	R_{oe}	$V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 100 MHz	--	1.0	--	kohms

2N3323

Power Gain	G_e	Test Circuit Figure 1, $V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 100 MHz	11	--	15	dB

2N3324

Power Gain	G_e	Test Circuit Figure 2, $V_{CE} = 10$ Vdc, $I_C = 3$ mAdc, f = 10 MHz	24	--	31	dB

FIGURE 1: 100 MHz POWER GAIN TEST CIRCUIT – 2N3323

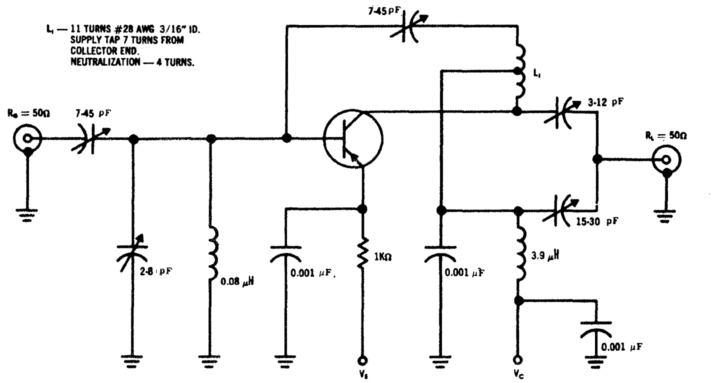


FIGURE 2: 10 MHz POWER GAIN TEST CIRCUIT – 2N3324