2N499
(2N499 JAN AVAILABLE)

2N499A
(2N499A JAN AVAILABLE)

2N502
2N502A
(2N502A JAN AVAILABLE)

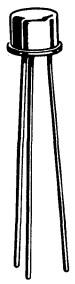
2N502B
(2N502B JAN AVAILABLE)

2N1742

Germanium PNP high frequency transistors designed for driver applications, small-signal amplification, wide band video amplifiers, and VHF/UHF oscillators.

CASE 149
(TO-1)

2N499, 2N499A
2N499JAN, 2N499A JAN



CASE 31
(TO-5)

2N502,A,B,
2N502A,B, JAN
2N1742

MAXIMUM RATINGS

Rating	Symbol	2N499 2N499 JAN 2N499A 2N499A JAN	2N502	2N502A, B 2N502A JAN 2N502B JAN	2N1742	Unit
Collector-Base Voltage	V_{CB}	30	20	30	20	Vdc
Emitter-Base Voltage	V_{EB}	0.5	0.5	0.5	0.5	Vdc
Collector Current	I_C	50	50	50	50	mAdc
Total Device Dissipation	P_D	60	60	75	60	mW
Operating Junction Temperature Range	T_J	100	100	100	125	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector Cutoff Current		I_{CBO}			μAdc
(V_{CB} = 10 Vdc, I_E = 0)	2N502, A, B		-	5.0	
	2N502A, B JAN		-	4.0	
	2N1742		-	10	
(V_{CB} = 15 Vdc, I_E = 0)	2N499, A, 2N499, A JAN		-	10	
DYNAMIC CHARACTERISTICS					
Current-Gain-Bandwidth Product		f_T			MHz
(I_C = 2.0 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)	2N499, A, 2N499, A JAN		120	-	
(I_C = 2.0 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)	JAN2N502A, B		150	600	
Output Capacitance		C_{ob}			pF
(V_{CB} = 10 Vdc, I_E = 0, f = 4.0 MHz)	2N499, A, 2N499, A JAN		-	2.5	
	2N502		-	2.0	
	2N502A, B		-	1.6	
	2N502A, B JAN		-	1.6	
Small-Signal Current Gain		h_{fe}			-
(I_C = 1.0 mAdc, V_{CE} = 9.0 Vdc, f = 1.0 kHz)	2N499, A, 2N499, A JAN		20	80	
(I_C = 2.0 mAdc, V_{CE} = 10 Vdc, f = 1.0 kHz)	2N502		9.0	-	
	2N502A		15	-	
	2N502B		20	80	
	2N502A JAN		15	200	
	2N502B JAN		25	80	
Collector-Base Time Constant		$r_b'C_c$			ps
(I_E = 2.0 mAdc, V_{CB} = 10 Vdc, f = 46 MHz)	2N499, A JAN		5.0	50	
	2N499		-	250	
	2N499A		5.0	250	
	2N502		-	120	
	2N502A, B		5.0	50	
	2N502A, B JAN		5.0	25	
Noise Figure		NF			dB
(V_{CB} = 10 Vdc, I_E = 2.0 mAdc, f = 200 MHz)	2N502A, 2N502A JAN		-	7.0	
	2N502B, 2N502B JAN		-	7.0	
(V_{CC} = 12 Vdc, I_E = 2.5 mAdc, f = 200 MHz)	2N1742		-	5.5	
FUNCTIONAL TESTS					
Power Gain		P_G			dB
(V_{CB} = 10 Vdc, I_E = 2.0 mAdc, f = 100 MHz)	2N499, A, 2N499, A JAN		7.5	-	
(V_{CB} = 10 Vdc, I_E = 2.0 mAdc, f = 200 MHz)	2N502		8.0	-	
	2N502A		10	-	
	2N502B		10	-	
	2N502A, B JAN		10	20	
(V_{CB} = 12 Vdc, I_E = 2.5 mAdc, f = 200 MHz)	2N1742		14	19	

2N508 (GERMANIUM)

FOR SPECIFICATIONS, SEE 2N322 DATA.