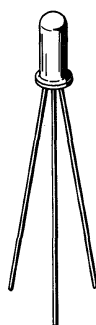


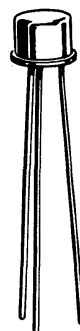
2N499**(2N499 JAN AVAILABLE)**

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

2N499A**(2N499A JAN AVAILABLE)****2N502****2N502A****(2N502A JAN AVAILABLE)****2N502B****(2N502B JAN AVAILABLE)****2N1742**

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

2N499, A/2N499JAN, A/2N502, A, B/2N502 JAN, A, B/2N1742 (continued)

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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

2N508 (GERMANIUM)

FOR SPECIFICATIONS, SEE 2N322 DATA.