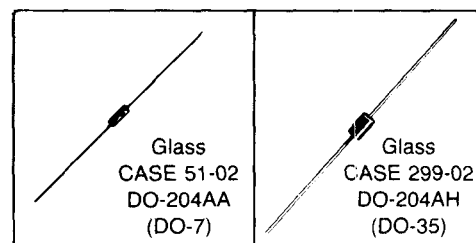


Temperature Compensated Reference Devices

For applications where output voltage must remain within narrow limits during changes in input voltage, load resistance and temperature. Motorola guarantees all References Devices to fall within the specified maximum voltage variations, ΔV_Z , at the specifically indicated test temperatures and test current (JEDEC Standard #5). Temperature Coefficient is also specified but should be considered as a reference only — not a maximum rating.

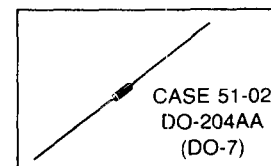
Devices in this table are hermetically sealed structures. Includes JAN, JANTX and JTXV Devices.



V _Z Volts	Test Current mAdc	Test Temp Points	AVERAGE TEMPERATURE COEFFICIENT OVER THE OPERATING RANGE										Case			
			0.01 %/°C		0.005 %/°C		0.002 %/°C		0.001 %/°C		0.0005 %/°C					
			Device Type	Δ V _Z Max Volts	Device Type	Δ V _Z Max Volts	Device Type	Δ V _Z Max Volts	Device Type	Δ V _Z Max Volts	Device Type	Δ V _Z Max Volts				
6.2  6.2 	7.5 7.5	A A	1N821,RL 1N821A,RL	0.096 0.096	1N823,RL 1N823A,RL	0.048 0.048	1N825,RL 1N825A,RL	0.019 0.019	1N827,RL 1N827A,RL	0.009 0.009	1N829,RL 1N829A,RL	0.005 0.005	299-02			
6.4	0.5 0.5 1.0 1.0 2.0 2.0 4.0 4.0	B A B A B B B A	1N4565 1N4565A 1N4570 1N4570A 1N4575 1N4575A 1N4580 1N4580A	0.018 0.099 0.048 0.099 0.048 0.099 0.048 0.099	1N4566 1N4566A 1N4571 1N4571A 1N4576 1N4576A 1N4581 1N4581A	0.024 0.050 0.024 0.050 0.024 0.025 0.024 0.050	1N4567 1N4567A 1N4572 1N4572A 1N4577 1N4577A 1N4582 1N4582A	0.010 0.020 0.010 0.020 0.010 0.020 0.010 0.020	1N4568 1N4568A 1N4573 1N4573A 1N4578 1N4578A 1N4583 1N4583A	0.005 0.010 0.005 0.010 0.005 0.010 0.005 0.010	1N4569 1N4569A 1N4574 1N4574A 1N4579 1N4579A 1N4584 1N4584A	0.002 0.005 0.002 0.005 0.002 0.005 0.002 0.005	DO-204AH (DO-35)			
	8.4	10 10	A C	1N3154 1N3154A	0.130 0.072	1N3155 1N3155A	0.065 0.085	1N3156 1N3156A	0.026 0.034	1N3157 1N3157A	0.013 0.017		51-02			
	8.5	0.5 0.5 1.0 1.0	B A B A	1N4775 1N4775A 1N4780 1N4780A	0.064 0.132 0.064 0.132	1N4776 1N4776A 1N4781 1N4781A	0.032 0.066 0.032 0.066	1N4777 1N4777A 1N4782 1N4782A	0.013 0.026 0.013 0.026	1N4778 1N4778A 1N4783 1N4783A	0.006 0.013 0.006 0.013	1N4779 1N4779A 1N4784 1N4784A	0.003 0.007 0.003 0.007	DO-204AA (DO-7)		
		9.0	7.5 7.5 7.5	B A C	1N935 1N935A 1N935B	0.067 0.139 0.184	1N936 1N936A 1N936B	0.033 0.069 0.092	1N937 1N937A 1N937B	0.013 0.027 0.037	1N938 1N938A 1N938B	0.006 0.013 0.018	1N939 1N939A 1N939B	0.003 0.007 0.009		
			9.1	0.5 0.5 1.0 1.0	B A B A	1N4765 1N4765A 1N4770 1N4770A	0.068 0.141 0.068 0.141	1N4766 1N4766A 1N4771 1N4771A	0.034 0.070 0.034 0.070	1N4767 1N4767A 1N4772 1N4772A	0.014 0.028 0.014 0.028	1N4768 1N4768A 1N4773 1N4773A	0.007 0.014 0.007 0.014	1N4769 1N4769A 1N4774 1N4774A	0.003 0.007 0.003 0.007	
				11.7	7.5 7.5 7.5	B A C	1N941 1N941A 1N941B	0.088 0.081 0.239	1N942 1N942A 1N942B	0.044 0.090 0.120	1N943 1N943A 1N943B	0.018 0.036 0.047	1N944 1N944A 1N944B	0.009 0.018 0.024	1N945 1N945A 1N945B	0.004 0.009 0.012

Test Temperature Points	
A	-55, 0, +25, +75, +100
B	0, +25, +75
C	-55, 0, +25, +75, +100, +150
D	0, +25, +70
E	-55, 0, +25, +75, +125
F	-55, 0, +75, +125, +185
G	+25, +75, +100

Δ Non-suffix — Z_{TT} = 15, "A" Suffix — Z_{TT} = 10
☐ JAN/JANTX(V) available, $\pm 5\%$ only, Military part in the 1N821 and 1N4565 series and supplied in the DO-7 package.



Precision Reference Diodes

Designed, manufactured and tested for ultra-high stability of voltage with time and temperature change. Use of special measurement equipment and voltage standards provide calibration directly traceable to the National Bureau of Standards.

Reference Voltage Volts	Test Current mA	Temperature Stability		CERTIFIED VOLTAGE TIME STABILITY OVER 1000 HOURS OF OPERATION							
				(Parts/Million Change)							
		ΔV_Z (mV)	OP Temp Range °C	<5 PPM/1000 HR		<10 PPM/1000 HR		<20 PPM/1000 HR		<40 PPM/1000 HR	
				Device Type	Change μ V Max	Device Type	Change μ V Max	Device Type	Change μ V Max	Device Type	Change μ V Max
6.2 $\pm 5\%$	7.5	2.5	25,75,100	MZ605	30	MZ610	60	MZ620	120	MZ640	240