1N2089–1N2167A

TYPE	MATERIAL	REPLACEMENT	PAGE NUMBER	IDENTIFICATION	RECTIFIERS					ZENER DIODES			
					V_R (volts)	V_F (volts)	I_O (Amps)	I_R (mA)	I_{surge} (Amps)	V_Z (min)	V_Z (nom) * / V_Z (max)	Tol V_Z %	P_D
					SIGNAL DIODES					REFERENCE DIODES			
					PRV (volts)	V_F @ I_F (volts)		I_R	t_{rr} (μs)	TC %/°C	V_Z	T (min) °C	T (max) °C
1N2089	S			R	600	1.2	0.75	0.5	30				
1N2090	S			R	50	0.5	0.5	0.25	15				
1N2091	S			R	100	0.5	0.5	0.25	15				
1N2092	S			R	200	0.5	0.5	0.25	15				
1N2093	S			R	300	0.5	0.5	0.25	15				
1N2094	S			R	400	0.5	0.5	0.25	15				
1N2095	S			R	500	0.5	0.5	0.25	15				
1N2096	S			R	600	0.5	0.5	0.25	15				
1N2102	S	Microwave L-S-band Detector											
1N2103	S	1N4001	3-24	R	50	1.2	0.75	0.3	10				
1N2104	S	1N4002	3-24	R	100	1.2	0.75	0.3	10				
1N2105	S	1N4003	3-24	R	200	1.2	0.75	0.3	10				
1N2106	S	1N4004	3-24	R	300	1.2	0.75	0.3	10				
1N2107	S	1N4004	3-24	R	400	1.2	0.75	0.3	10				
1N2108	S	1N4005	3-24	R	500	1.2	0.75	0.3	10				
1N2109	S			R	50	1.2	2.0	0.3	10				
1N2110	S			R	100	1.2	2.0	0.3	10				
1N2111	S			R	200	1.2	2.0	0.3	10				
1N2112	S			R	300	1.2	2.0	0.3	10				
1N2113	S			R	400	1.2	2.0	0.3	10				
1N2114	S			R	500	1.2	2.0	0.3	10				
1N2115	S			R	365	0.8	0.2	0.25	10				
1N2116	S			R	400	1.4	0.5	0.4	15				
1N2117	S			R	720	1.3	0.75	0.010	15				
1N2127	S	Microwave L-X-band Detector											
1N2127A	S	Microwave L-X-band Detector											
1N2128	S	MR1200FL	3-43	R	50	2.0	60	10	700				
1N2128A	S	MR1200FL	3-43	R	50	2.0	60	10	900				
1N2129	S	MR1201FL	3-43	R	100	2.0	60	10	700				
1N2129A	S	MR1201FL	3-43	R	100	2.0	60	10	900				
1N2130	S	MR1202FL	3-43	R	150	2.0	60	10	700				
1N2130A	S	MR1202FL	3-43	R	150	2.0	60	10	900				
1N2131	S	MR1203FL	3-43	R	200	2.0	60	10	700				
1N2131A	S	MR1203FL	3-43	R	200	2.0	60	10	900				
1N2132	S	MR1204FL	3-43	R	250	2.0	60	10	700				
1N2132A	S	MR1204FL	3-43	R	250	2.0	60	10	900				
1N2133	S	MR1205FL	3-43	R	300	2.0	60	10	700				
1N2133A	S	MR1205FL	3-43	R	300	2.0	60	10	900				
1N2134	S	MR1206FL	3-43	R	350	2.0	60	10	700				
1N2134A	S	MR1206FL	3-43	R	350	2.0	60	10	900				
1N2135	S	MR1207FL	3-43	R	400	2.0	60	10	700				
1N2135A	S	MR1207FL	3-43	R	400	2.0	60	10	900				
1N2136	S			R	450	2.0	60	10	700				
1N2136A	S			R	450	2.0	60	10	900				
1N2137	S			R	500	2.0	60	10	700				
1N2137A	S			R	500	2.0	60	10	900				
1N2138	S			R	600	2.0	60	10	700				
1N2138A	S			R	600	2.0	60	10	900				
1N2139	S			R	20K	60	0.052	0.2	3.5				
1N2146	S			CS	120	1.1	500M	1.0*	0.1				
1N2147	S			R	50	1.2	6.0	0.5	150				
1N2147A	S			R	50	1.0	6.0	0.1	150				
1N2148	S			R	100	1.2	6.0	0.5	150				
1N2148A	S			R	100	1.0	6.0	0.1	150				
1N2149	S			R	200	1.2	6.0	0.5	150				
1N2149A	S			R	200	1.0	6.0	0.1	150				
1N2150	S			R	300	1.2	6.0	0.5	150				
1N2150A	S			R	300	1.0	6.0	0.1	150				
1N2151	S			R	400	1.2	6.0	0.5	150				
1N2151A	S			R	400	1.0	6.0	0.1	150				
1N2152	S			R	500	1.2	6.0	0.5	150				
1N2152A	S			R	500	1.0	6.0	0.1	150				
1N2153	S			R	600	1.2	6.0	0.5	150				
1N2153A	S			R	600	1.0	6.0	0.1	150				
1N2154	S	1N1183	3-11	R	50	0.6	25	5.0	300				
1N2155	S	1N1184	3-11	R	100	0.6	25	4.5	300				
1N2156	S	1N1186	3-11	R	200	0.6	25	4.0	300				
1N2157	S	1N1187	3-11	R	300	0.6	25	3.5	300				
1N2158	S	1N1188	3-11	R	400	0.6	25	3.0	300				
1N2159	S	1N1189	3-11	R	500	0.6	25	2.5	300				
1N2160	S	1N1190	3-11	R	600	0.6	25	2.0	300				
1N2163	S		2-45	RD						0.005	9.4	-65	200
1N2163A	S		2-45	RD						0.005	9.4	-65	200
1N2164	S		2-45	RD						0.005	9.4	-65	200
1N2164A	S		2-45	RD						0.005	9.4	-65	200
1N2165	S		2-45	RD						0.005	9.4	-65	200
1N2165A	S		2-45	RD						0.005	9.4	-65	200
1N2166	S		2-45	RD						0.001	9.4	-65	200
1N2166A	S		2-45	RD						0.001	9.4	-65	200
1N2167	S		2-45	RD						0.001	9.4	-65	200
1N2167A	S		2-45	RD						0.001	9.4	-65	200

R—Rectifier, **RD**—Reference Diode, **ZD**—Zener Diode, **GP**—General Purpose, **HC**—High Conductance (≥ 20 mA @ ≤ 1 V), **HS**—High Speed Switch (Max t_{rr} < 0.3 μs), **CS**—High Conductance, High Speed Switch, **MS**—Medium Speed Switch, **PA**—Parametric Amplifier, **SP**—Special Purpose.

Type Number	Max Voltage Change △V Volts	Temperature Coefficient %/°C For Reference	Max Dynamic Impedance Z_{ZT} Ohms	Power Dissipation P mW	Case
TABLE 22 V_Z = 9.4 V ± 0.4 V (±0.2 V Suffix "A") at I_{ZT} = 10 mA Test Temperatures: ③(-55, 0, 25, 75, 125, 185) ④(-55, 0, 25, 75, 125) ⑤(0, 25, 70)					
1N2163, A	0.033⑤	0.005	15	750	52
1N2164, A	0.086④	0.005	15	750	52
1N2165, A	0.115③	0.005	15	750	52
1N2166, A	0.007⑤	0.001	15	750	52
1N2167, A	0.017④	0.001	15	750	52
1N2168, A	0.023③	0.001	15	750	52
1N2169, A	0.004④	0.0005	15	750	52
1N2170, A	0.009⑤	0.0005	15	750	52
1N2171, A	0.012③	0.0005	15	750	52
TABLE 23 V_Z = 11.7 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: 0, 25, 75°C					
1N941	0.088	0.01	30	†250②	51
1N942	0.044	0.005	30	†250②	51
1N943	0.018	0.002	30	†250②	51
1N944	0.009	0.001	30	†250②	51
1N945	0.004	0.0005	30	†250②	51
1N3580	0.088	0.01	25	750②	52
1N3581	0.044	0.005	25	750②	52
1N3582	0.018	0.002	25	750②	52
TABLE 24 V_Z = 11.7 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, 0, +25, +75, +100°C					
1N941A	0.181	0.01	30	†250②	51
1N942A	0.090	0.005	30	†250②	51
1N943A	0.036	0.002	30	†250②	51
1N944A	0.018	0.001	30	†250②	51
1N945A	0.009	0.0005	30	†250②	51
1N3580A	0.181	0.01	25	750②	52
1N3581A	0.090	0.005	25	750②	52
1N3582A	0.036	0.002	25	750②	52
TABLE 25 V_Z = 11.7 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, 0, +25, +75, +100, +150°C					
1N941B	0.239	0.01	30	†250②	51
1N942B	0.120	0.005	30	†250②	51
1N943B	0.047	0.002	30	†250②	51
1N944B	0.024	0.001	30	†250②	51
1N945B	0.012	0.0005	30	†250②	51
1N3580B	0.239	0.01	25	750②	52
1N3581B	0.120	0.005	25	750②	52
1N3582B	0.048	0.002	25	750②	52

Type Number	Max Voltage Change △V Volts	Temperature Coefficient %/°C For Reference	Max Dynamic Impedance Z_{ZT} Ohms	Power Dissipation P mW	Case
TABLE 26 V_Z = 12.4 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, +25, +100°C					
1N1736	0.100	0.01	40	400①	41-3
1N1736A	0.050	0.005	40	400①	41-3
TABLE 27 V_Z = 18.6 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, +25, +100°C					
1N1737	0.150	0.01	60	600①	41-5
1N1737A	0.075	0.005	60	600①	41-5
TABLE 28 V_Z = 20.4 V ±5% at I_{ZT} = 7.5 mA Test Temperatures: -55, +25, +100°C					
1N2767	0.158	0.005	60	600①	41-7
1N2767A	0.079	0.0025	60	600①	41-7
TABLE 29 V_Z = 24.8 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, +25, +100°C					
1N1738	0.200	0.01	80	800①	41-5
1N1738A	0.100	0.005	80	800①	41-5
TABLE 30 V_Z = 27.2 V ±5% at I_{ZT} = 7.5 mA Test Temperatures: -55, +25, +100°C					
1N2768	0.210	0.005	80	800①	41-7
1N2768A	0.105	0.0025	80	800①	41-7
TABLE 31 V_Z = 31.0 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, +25, +100°C					
1N1739	0.250	0.01	100	1000①	41-4
1N1739A	0.125	0.005	100	1000①	41-4
TABLE 32 V_Z = 34.0 V ± 5% at I_{ZT} = 7.5 mA Test Temperatures: -55, + 25, +100°C					
1N2769	0.265	0.005	100	1000①	41-1
1N2769A	0.132	0.0025	100	1000①	41-1

① T_J = -65 to +150°C
② T_J = -65 to +175°C

† The indicated power rating is recommended for conservative design limits in critical high reliability applications. Registered power ratings vary from 250 mW to 500 mW. All devices indicated are supplied in the 400 mW glass package.