

■ Switching Diodes

● High-Speed Switching Diodes

☆ Under Development

Type	Absolute maximum ratings (Ta = 25°C)							Electrical characteristics (Ta = 25°C)										Package	Reference Catalog
	V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{surge} (mA) 1s	T _J (°C)	T _{stg} (°C)	V _F (V) Max.		I _R (μA) Max.		C _T (pF) Max.		t _{rr} (ns) Max.					
								I _F (mA)	V _R (V)		V _R (V)	f(MHz)	V _R (V)	I _F (mA)					
1S2471	90	80	400	130	600	175	-65 ~ 175	1.2	100	0.5	80	2	0.5	1	4	6	10	Fig. 1	No. 3120A
1S2472	55	50	350	120	500	175	-65 ~ 175	1.2	100	0.5	50	2	0.5	1	4	6	10	Fig. 1	
1S2473	40	35	300	110	400	175	-65 ~ 175	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 1	
1S2787	40	35	70	50	200	125	-65 ~ 125	0.9	5	1.0	35	3	1	1	3	6	5	Fig. 1	
1SS41	100	75	400	130	600	175	-65 ~ 175	1.0	10	0.5	20	4	0	1	4	6	10	Fig. 1	
1SS130	100	75	400	130	600	175	-65 ~ 175	1.0	10	0.5	20	4	0	1	4	6	10	Fig. 2	
1SS131	90	80	400	130	600	175	-65 ~ 175	1.2	100	0.5	80	2	0.5	1	4	6	10	Fig. 2	
1SS132	55	50	350	120	500	175	-65 ~ 175	1.2	100	0.5	50	2	0.5	1	4	6	10	Fig. 2	
1SS133	40	35	300	110	400	175	-65 ~ 175	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 2	
1SS134	40	35	70	50	200	125	-65 ~ 125	0.9	5	1.0	35	3	1	1	4	6	5	Fig. 2	
1SS252	90	80	400	130	600	175	-65 ~ 175	1.2	100	0.5	80	2	0.5	1	4	6	10	Fig. 3	
1SS253	55	50	350	120	500	175	-65 ~ 175	1.2	100	0.5	50	2	0.5	1	4	6	10	Fig. 3	
1SS254	40	35	300	110	400	175	-65 ~ 175	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 3	
1SS332	40	35	225	100	400	125	-50 ~ 125	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 8	No. 3091
☆ 1SS353	90	80	225	100	400	125	-55 ~ 125	1.2	100	0.5	80	3	0.5	1	4	6	10	Fig. 9	No. 3215
☆ 1SS354	80	50	225	100	400	125	-55 ~ 125	1.2	100	0.5	50	3	0.5	1	4	6	10	Fig. 9	
☆ 1SS355	40	35	225	100	400	125	-55 ~ 125	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 9	
1SS363	40	35	225	100	400	120	-55 ~ 125	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 10	—
RLS-71	90	80	400	130	600	175	-65 ~ 175	1.2	100	0.5	80	2	0.5	1	4	6	10	Fig. 6	NO. 3120A
RLS-72	55	50	350	120	500	175	-65 ~ 175	1.2	100	0.5	50	2	0.5	1	4	6	10	Fig. 6	
RLS-73	40	35	300	110	400	175	-65 ~ 175	1.2	100	0.5	35	3	0.5	1	4	6	10	Fig. 6	

● Ultra High-Speed Switching Diodes

Type	Absolute maximum ratings (Ta = 25°C)							Electrical characteristics (Ta = 25°C)										Package	Reference Catalog
	V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{surge} (mA) 1μs	T _J (°C)	T _{stg} (°C)	V _F (V) Max.		I _R (μA) Max.		C _T (pF) Max.			t _{rr} (ns) Max.				
								I _F (mA)		V _R (V)		V _R (V)	f(MHz)		V _R (V)	I _F (mA)			
1SS92	75	65	600	200	4000	175	-65 ~ 175	1.0	100	0.5	65	3	0	1	2	6	10	Fig. 1	No. 3120A
1SS93	55	50	600	200	4000	175	-65 ~ 175	1.0	100	0.5	50	3	0	1	2	6	10	Fig. 1	
1SS94	40	35	600	200	4000	175	-65 ~ 175	1.0	100	0.5	35	3	0	1	2	6	10	Fig. 1	
1SS136	75	65	600	200	4000	175	-65 ~ 175	1.0	100	0.5	65	3	0	1	2	6	10	Fig. 2	
1SS137	55	50	600	200	4000	175	-65 ~ 175	1.0	100	0.5	50	3	0	1	2	6	10	Fig. 2	
1SS138	40	35	600	200	4000	175	-65 ~ 175	1.0	100	0.5	35	3	0	1	2	6	10	Fig. 2	
RLS-92	75	65	600	200	4000	175	-65 ~ 175	1.0	100	0.5	65	3	0	1	2	6	10	Fig. 6	
RLS-93	55	50	600	200	4000	175	-65 ~ 175	1.0	100	0.5	50	3	0	1	2	6	10	Fig. 6	
RLS-94	40	35	600	200	4000	175	-65 ~ 175	1.0	100	0.5	35	3	0	1	2	6	10	Fig. 6	

● Low-Leakage Switching Diodes

Type	Absolute maximum ratings (Ta = 25°C)							Electrical characteristics (Ta = 25°C)										Package	Reference Catalog
	V _{RM} (V)	V _R (V)	I _{FM} (mA)	I _O (mA)	I _{surge} (mA) 1s	T _J (°C)	T _{stg} (°C)	V _F (V) Max.		I _R (nA) Max.		C _T (pF) Max.		t _{rr} (ns) Max.					
									I _F (mA)		V _R (V)		V _R (V)	f(MHz)		V _R (V)	I _F (mA)		
1SS139	90	80	400	130	600	175	-65 ~ 175	1.2	100	20	30	5	0.5	1	50	6	10	Fig. 1	No. 3120A
1SS140	55	50	350	120	500	175	-65 ~ 175	1.2	100	10	25	5	0.5	1	50	6	10	Fig. 1	
1SS141	40	35	300	110	400	175	-65 ~ 175	1.2	100	10	20	5	0.5	1	50	6	10	Fig. 1	
1SS290	90	80	400	130	600	175	-65 ~ 175	1.2	100	20	30	5	0.5	1	50	6	10	Fig. 2	
1SS291	55	50	350	120	500	175	-65 ~ 175	1.2	100	10	25	5	0.5	1	50	6	10	Fig. 2	
1SS292	40	35	300	110	400	175	-65 ~ 175	1.2	100	10	20	5	0.5	1	50	6	10	Fig. 2	
RLS139	90	80	400	130	600	175	-65 ~ 175	1.2	100	20	30	5	0.5	1	50	6	10	Fig. 6	
RLS140	55	50	350	120	500	175	-65 ~ 175	1.2	100	10	25	5	0.5	1	50	6	10	Fig. 6	
RLS141	40	35	300	110	400	175	-65 ~ 175	1.2	100	10	20	5	0.5	1	50	6	10	Fig. 6	

● High-Voltage Switching Diodes

Type	Absolute maximum ratings (Ta = 25°C)							Electrical characteristics (Ta = 25°C)										Package	Referer of Catalog
	VRM (V)	VR (V)	IFM (mA)	IO (mA)	Isurge (mA) 1s	Tj (°C)	Tstg (°C)	VF(V) Max.		IR(μA) Max.		CT(pF) Max.		trr(ns) Max.					
									IF(mA)		VR(V)		VR(V)	f(MHz)		VR(V)	IF(mA)		
1SS142	300	250	625	200	1000	175	-65 ~ 175	1.0	100	0.5	250	10	0	1	400	6	10	Fig. 1	No. 3121A
1SS143	250	200	625	200	1000	175	-65 ~ 175	1.0	100	0.5	200	10	0	1	400	6	10	Fig. 1	
1SS144	200	150	625	200	1000	175	-65 ~ 175	1.0	100	0.5	150	10	0	1	400	6	10	Fig. 1	
1SS145	300	250	625	200	1000	175	-65 ~ 175	1.0	100	0.5	250	10	0	1	400	6	10	Fig. 2	
1SS146	250	200	625	200	1000	175	-65 ~ 175	1.0	100	0.5	200	10	0	1	400	6	10	Fig. 2	
1SS147	200	150	625	200	1000	175	-65 ~ 175	1.0	100	0.5	150	10	0	1	400	6	10	Fig. 2	
1SS244	250	220	625	200	1000	175	-65 ~ 175	1.5	200	10	220	3	0	1	75	IF = -IR = 20mA		Fig. 2	
1SS245	250	220	625	200	1000	175	-65 ~ 175	1.5	200	10	220	3	0	1	75	IF = -IR = 20mA		Fig. 1	
RLS245	250	220	625	200	1000	175	-65 ~ 175	1.5	200	10	220	3	0	1	75	IF = -IR = 20mA		Fig. 6	

- Switching Diodes (JEDEC Standard)

Absolute maximum ratings (Ta = 25°C)

Type		V _{RM} (V)	V _H (V)	I _{FM} (mA)	I _O (mA)	I _F (mA)	I _{FSM} 1μs (A)	P (mW)
DO-35(Fig.1) *DO-34(Fig.2)	LL-34 (Fig.6)							
1N4148 1N914	RLS4148	100	75	450	150	200	2	500
1N4149 1N916	RLS4149	100	75	450	150	200	2	500
1N4150 1N3600	RLS4150	50	50	600	200	250	4	500
1N4151 1N3604	RLS4151	75	50	450	150	200	2	500
1N4152 1N3605	RLS4152	40	30	450	150	200	2	500
1N4153 1N3606	RLS4153	75	50	450	150	200	2	500
1N4154	RLS4154	35	25	450	150	200	2	500
1N4446 1N914A	RLS4446	100	75	450	150	200	2	500
1N4447 1N916A	RLS4447	100	75	450	150	200	2	500
1N4448 1N914B	RLS4448	100	75	450	150	200	2	500
1N4449 1N916B	RLS4449	100	75	450	150	200	2	500
1N4450	RLS4450	40	30	600	200	250	4	500
1N4454 1N3064	RLS4454	75	50	450	150	200	2	500
1N4606	RLS4606	85	70	600	200	250	4	500
1N4531*		100	75	450	150	200	2	500
1N4532*		75	50	450	150	200	2	500
1N4533*		40	30	450	150	200	2	500
1N4534*		75	50	450	150	200	2	500
1N4536*		35	25	450	150	200	2	500

Notes: Tj: 200°C, Topr: -65 ~ 200°C, Tstg: -65 ~ 200°C

Electrical Characteristics (Ta = 25°C)

Type		V _F (V)												BV(V)		I _R (μA)Max.				C _T (pF)	trr(ns)
DO-35(Fig 1) *DO-34(Fig 2)	LL-34 (Fig 6)	@ 0.1mA	@ 0.25mA	@ 1mA	@ 2mA	@ 5mA	@ 10mA	@ 20mA	@ 30mA	@ 50mA	@ 100mA	@ 200mA	@ 250mA	@ 5μA	@ 100μA	@ 25 °C V _R (V)	@ 150 °C V _R (V)	V _R = 0 I = 1MHz	V _R = 6V I = 10mA R = 100Ω		
1N4148 1N914	RLS4148						1.0							75	100	0.025 5.0	20 75	50.0	20	4	4
1N4149 1N916	RLS4149						1.0							—	100	0.025 5.0	20 75	50.0	20	2	4
1N4150 1N3600	RLS4150			0.54 0.62			0.66 0.74			0.76 0.86	0.82 0.92	0.87 1.0		—	50	0.1	50	100.0	50	2.5	4
1N4151 1N3604	RLS4151									1.0				75	—	0.05	50	50.0	50	2	2
1N4152 1N3605	RLS4152	0.49 0.55	0.53 0.59	0.59 0.67	0.62 0.70		0.70 0.81	0.74 0.88						40	—	0.05	30	50.0	30	2	2
1N4153 1N3606	RLS4153	0.49 0.55	0.53 0.59	0.59 0.67	0.62 0.70		0.70 0.81	0.74 0.88						75	—	0.05	50	50.0	50	2	2
1N4154	RLS4154									1.0				35	—	0.1	25	100.0	25	4	2
1N4446 1N914A	RLS4446							1.0						—	100	0.025 5.0	20 75	50.0	20	4	4
1N4447 1N916A	RLS4447							1.0						—	100	0.025 5.0	20 75	50.0	20	2	4
1N4448 1N914B	RLS4448					0.62 0.72						1.0		—	100	0.025 5.0	20 75	50.0	20	4	4
1N4449 1N916B	RLS4449					0.63 0.73						1.0		—	100	0.025 5.0	20 75	50.0	20	2	4
1N4450	RLS4450	0.42 0.54		0.52 0.64			0.64 0.72			0.80 0.92		1.0		40	—	0.05	30	50.0	30	4	4
1N4454 1N3064	RLS4454						1.0							75	—	0.1	50	100.0	50	2	2
1N4606	RLS4606			0.54 0.66			0.65 0.77			0.74 0.86	0.79 0.92	0.86 1.0	1.1	—	85	0.1 0.25 5.0	50 70 75	25.0 (100 °C)	50	2.5	4
1N4531*							1.0							75	100	0.025 5.0	20 75	50.0	20	4	4
1N4532*							1.0							75	—	0.1	50	100.0	50	2	2
1N4533*		0.49 0.55	0.53 0.59	0.59 0.67	0.62 0.70		0.70 0.81	0.74 0.88						40	—	0.05	30	50.0	30	2	2
1N4534*		0.49 0.55	0.53 0.59	0.59 0.67	0.62 0.70		0.70 0.81	0.74 0.88						75	—	0.05	50	50.0	50	2	2
1N4536*										1.0				35	—	0.1	25	100.0	25	4	2

Band Switching Diodes

- Glass sealed types

Type	Absolute maximum ratings (Ta = 25°C)					Electrical characteristics (Ta = 25°C)										Package	Reference Catalog
	Pd (mW)	V _R (V)	I _O (mA)	T _J (°C)	T _{stg} (°C)	V _F (V) Max. I _F (mA)	I _R (nA) Max. V _R (V)	C _T (pF) Max. V _R (V) f(MHz)	r _F (Ω) Max. I _F (mA) f(MHz)								
1SS135	150	35	100	150	-55 ~ 150	1.0	10	100	20	1.3	6	1	0.6	10	100	Fig. 2	No. 3120A
1SS265	150	35	100	150	-55 ~ 150	1.0	10	100	20	1.5	10	1	0.6	10	100	Fig. 3	
RLS135	150	35	100	150	-55 ~ 150	1.0	10	100	20	1.5	10	1	0.6	10	100	Fig. 6	

• Super mini molded types

Super-mini module type																	
Type	Absolute maximum ratings (Ta = 25 °C)				Electrical characteristics (Ta = 25 °C)											Package	Reference Catalog
	Pd (mW)	VR (V)	Tj (°C)	Tstg (°C)	Vi (V) Max.		Iv (nA) Max.		Cr (pF) Max.			rf (Ω) Max.					
					Ir (mA)	Vr (V)	Ir (nA)	Vr (V)	f (MHz)	f (MHz)	Ir (mA)	f (MHz)					
DAN235K	150	35	125	55 ~ 125	1.0	10	10	25	1.2	6	1	0.9	2	100	Fig. 13	No. 3120A	
DAN235U	150	35	125	55 ~ 125	1.0	10	10	25	1.2	6	1	0.9	2	100	Fig. 12		
DAP236K	150	35	125	55 ~ 125	1.0	10	10	25	1.2	6	1	0.9	2	100	Fig. 13		
DAP236U	150	35	125	55 ~ 125	1.0	10	10	25	1.2	6	1	0.9	2	100	Fig. 12		
1SS299	150	35	125	55 ~ 125	1.0	10	10	25	1.2	6	1	0.9	2	100	Fig. 10	No. 3120A	
1SS318	150	35	125	55 ~ 125	1.0	10	10	25	1.2	6	1	0.9	2	100	Fig. 8		

■ Rectifying Diodes

• General purpose rectifier diodes

⊗ Under Development

Type	Absolute maximum ratings (Ta = 25 °C)						Electrical characteristics (Ta = 25 °C)				Package	Reference Catalog
	V _{FRM} (V)	V _{RM} (V)	I _O (A) *Ta = 50 °C	I _{FRM} (A) 60Hz 1∞	T _J (°C)	Tstg (°C)	V _{FRM} (V) Max.		I _{RM} (μA) Max.			
								I _{FRM} (A)		V _{RM} (V)		
1SR35-100A	150	100	1*	30	175	-65 ~ 175	1.1	1	10	100	Fig. 4	No.3120A
1SR35-200A	300	200	1*	30	175	-65 ~ 175	1.1	1	10	200	Fig. 4	
1SR35-400A	500	400	1*	30	175	-65 ~ 175	1.1	1	10	400	Fig. 4	
1SR139-100	150	100	1	40	150	-40 ~ 150	1.1	1	10	100	Fig. 5	
1SR139-200	250	200	1	40	150	-40 ~ 150	1.1	1	10	200	Fig. 5	
1SR139-400	500	400	1	40	150	-40 ~ 150	1.1	1	10	400	Fig. 5	
⊗ 1SR139-600	750	600	1	40	150	-40 ~ 150	1.1	1	10	600	Fig. 5	No.3176
⊗ 1SR154-100	150	100	1	30	150	-55 ~ 150	1.1	1	10	100	Fig. 11	
⊗ 1SR154-200	250	200	1	30	150	-55 ~ 150	1.1	1	10	200	Fig. 11	
⊗ 1SR154-400	500	400	1	30	150	-55 ~ 150	1.1	1	10	400	Fig. 11	
1N4001A	75	50	1*	30	175	-65 ~ 175	1.1	1	10	50	Fig. 4	No. 3120A
1N4002A	150	100	1*	30	175	-65 ~ 175	1.1	1	10	100	Fig. 4	
1N4003A	300	200	1*	30	175	-65 ~ 175	1.1	1	10	200	Fig. 4	
1N4004A	500	400	1*	30	175	-65 ~ 175	1.1	1	10	400	Fig. 4	
RLR4001	60	50	0.8	20	150	-55 ~ 150	1.0	0.8	10	50	Fig. 7	
RLR4002	120	100	0.8	20	150	-55 ~ 150	1.0	0.8	10	100	Fig. 7	
RLR4003	240	200	0.8	20	150	-55 ~ 150	1.0	0.8	10	200	Fig. 7	
RLR4004	480	400	0.8	20	150	-55 ~ 150	1.0	0.8	10	400	Fig. 7	

• High-speed rectifier diodes

⊗ Under Development

Type	Absolute maximum ratings (Ta = 25 °C)						Electrical characteristics (Ta = 25 °C)							Package	Reference Catalog
	VRMS (V)	VRM (V)	IO (A)	IRMS(A) 60Hz 100	Tj (°C)	Tstg (°C)	VF (V) Max.		IRM(μA) Max.		trr(μs) Max.				
								IFM(A)		VRM(V)		II (mA)	II (mA)		
1SR124-100A	150	100	1	30	150	65 ~ 175	1.3	1	10	100	0.4	10	10	Fig. 4	No. 3120A
1SR124-200A	300	200	1	30	150	65 ~ 175	1.3	1	10	200	0.4	10	10	Fig. 4	
1SR124-400A	500	400	1	30	150	65 ~ 175	1.3	1	10	400	0.4	10	10	Fig. 4	
⊗ 1SR153-100	150	100	0.8	30	150	40 ~ 150	1.3	1	10	100	0.4	10	10	Fig. 5	
⊗ 1SR153-200	300	200	0.8	30	150	40 ~ 150	1.3	1	10	200	0.4	10	10	Fig. 5	
⊗ 1SR153-400	500	400	0.8	30	150	40 ~ 150	1.3	1	10	400	0.4	10	10	Fig. 5	

■ Schottky Barrier Diodes (Rectify)

Type	Absolute maximum ratings (Ta = 25°C)					Electrical characteristics (Ta = 25°C)				Package	Reference Catalog
	VRM (V)	IO (A)	IR (A) 60Hz 1∞	Tj (°C)	Tstg (°C)	VF (V) Max.	IR (μA) Max.	VR (V)	VR (V)		
RB100A	40	1	40	125	40 ~ 125	0.55	1	1000	40	Fig. 5	No. 312CA
RB110C	40	1	5	125	40 ~ 125	0.60	1	80	25	Fig. 15	
RB400D	20	0.5	3	125	40 ~ 125	0.55	0.50	30	10	Fig. 13	
RB411D	20	0.5	3	125	40 ~ 125	0.50	0.50	30	10	Fig. 13	
RB420D	25	0.1	1	125	40 ~ 125	0.45	0.01	1	10	Fig. 13	
RB421D	20	0.1	1	125	40 ~ 125	0.55	0.10	30	10	Fig. 13	
RB425D	20	0.1	1	125	40 ~ 125	0.55	0.10	30	10	Fig. 13	
RB435C	20	0.5	3	125	40 ~ 125	0.55	0.50	30	10	Fig. 15	
RB441Q	20	0.1	1	125	40 ~ 125	0.55	0.10	10	10	Fig. 2	
RB450F	25	0.1	1	125	40 ~ 125	0.45	0.01	1	10	Fig. 12	
RB451F	20	0.1	1	125	40 ~ 125	0.55	0.10	30	10	Fig. 12	
RB471E	20	0.1	1	125	40 ~ 125	0.55	0.10	30	10	Fig. 14	

Schottky Barrier Diodes (Small Signal)

Electrical characteristics (Ta = 25 °C)																Package	Reference Catalog
Type	Absolute maximum ratings (Ta = 25 °C)						Electrical characteristics (Ta = 25 °C)										
	V _{RM} (V)	V _R (V)	I _O (mA)	I _{RM} (A) 60Hz 100	T _J (°C)	T _{stg} (°C)	V _F (V) Max.		I _R (μA) Max.		C _T (pF) Typ.						
							I _F (mA)		V _R (V)			V _H (V)	f(MHz)				
RB705D	25	20	30	0.2	125	-40 ~ 125	0.37	1	1	10	2	1	1	Fig. 11	No.3120A		
RB715F	25	20	30	0.2	125	-40 ~ 125	0.37	1	1	10	2	1	1	Fig. 10			
RB717F	25	20	30	0.2	125	-40 ~ 125	0.37	1	1	10	2	1	1	Fig. 10			
RB721Q	25	20	30	0.2	125	-40 ~ 125	0.37	1	1	10	2	1	1	Fig. 2			
RB751H	25	20	30	0.2	125	-40 ~ 125	0.37	1	1	10	2	1	1	Fig. 8			

Now

Variable Capacitance Diodes (Voltage variable capacity)

Tuning Diodes

Type	Absolute maximum ratings (Ta = 25 °C)				Electrical Characteristics (Ta = 25 °C)												Package	Reference Catalog	
	V _{HM} (V)	V _R (V)	T _J (°C)	T _{stg} (°C)	I _H (nA) Max. V _R (V)	C _{T1} (pF)				C _{T2} (pF)				RS(Ω) Max.					
						Min	Max	V _R (V)	f(MHz)	Min.	Max.	V _R (V)	f(MHz)	C _T (pF)	f(MHz)				
1SV205	35	30	120	30 - 120	10	28	13.88	16.04	2	1	2.015	2.385	25	1	0.6	14	470	Fig. 10	No 3120A
1SV223	35	30	120	30 - 120	10	28	13.88	16.04	2	1	2.015	2.385	25	1	0.6	14	470	Fig. 8	

Low-voltage Regulators (Glass-sealed LEDs)

Type	Absolute maximum ratings (Ta = 25 °C)			Electrical Optical characteristics (Ta = 25 °C)									Emitting Color	Package	Reference Catalog
	Pd (mW)	If (mA)	Vf(V)	Vf(V)		If(mA)	Ir (μA) Max.	Vr(V)	Δλ (nm) Typ.	λp (nm) Typ.	If (mA DC)				
				Min	Max.										
LTZ-MR15	25	10	5	1.70	2.30	10	10	4	90	10	700	10	Red	Fig. 2★	No.3120A

Dimensions (Unit: mm)

DO-35 (SC-40)

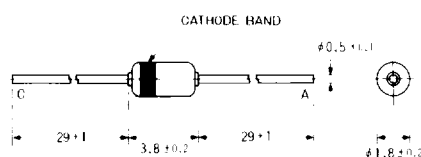


Fig. 1

DO-34

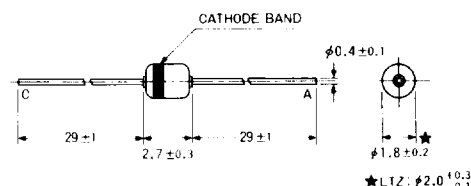


Fig. 2

USD

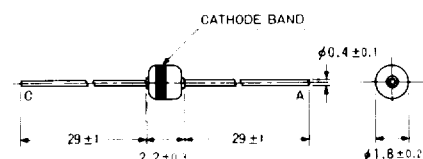


Fig. 3

DO-41

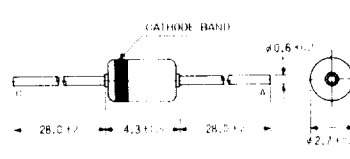


Fig. 4

MSR

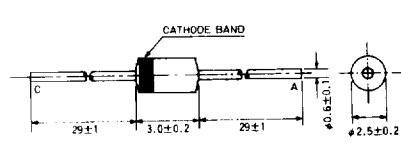


Fig. 5

LL-34

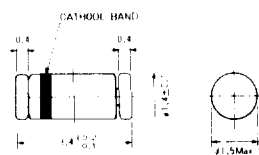


Fig. 6

LL-41

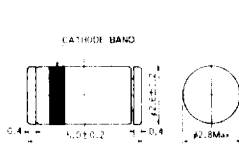


Fig. 7

DSM

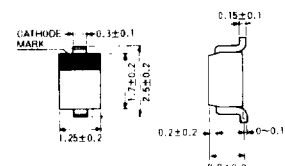


Fig. 8

USM

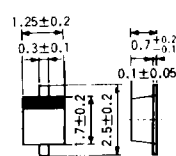


Fig. 9

DMM

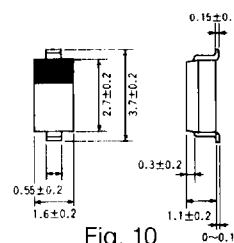


Fig. 10

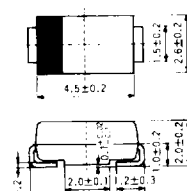
PSM
(Tentative)

Fig. 11

Dimensions (Unit: mm)

UMD

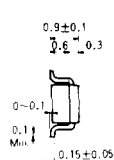


Fig. 12

SMD

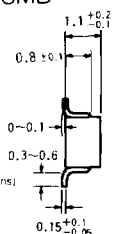


Fig. 13

FMD

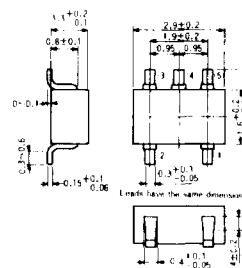


Fig. 14

MPD

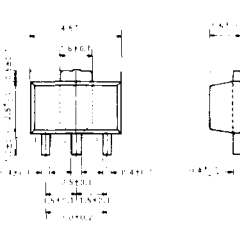
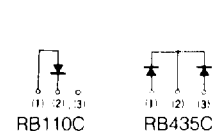
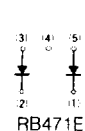
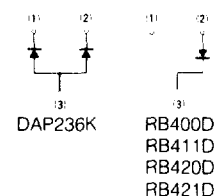
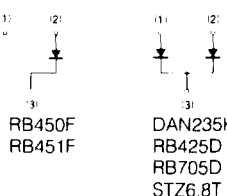
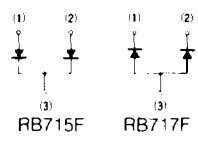


Fig. 15



■ Zener Diodes

Series	Package	Pd (mW)	Voltage range (V)	Features		Reference Catalog
MTZ Series	DO-34	500	2.0 ~ 20	Domestic	Low-noise type	No. 3120A
MTZ J Series	DO-34	500	2.0 ~ 56			
RLZ Series	LL-34	400	2.0 ~ 56			
RLZ J Series	LL-34	400	2.0 ~ 47			
UTZ J Series	USD	350	4.7 ~ 39			
DTZ Series	DSM	200	2.0 ~ 36			
STZ 6.8 T	SMD	200	6.47 ~ 7.14			Cathode common, Contains 2 devices
ITZ 5.6H	SIP 9 pin	400	5.28 ~ 5.91	Cathode common, Contains 8 devices	Export	No. 3120A
1N 5000 Series	DO-35	500	4.7 ~ 24	—		No. 3120A
1N 900 Series	DO-35	400	6.8 ~ 24			No. 3120A
1N 700 Series	DO-35	400	3.3 ~ 12			No. 3120A
RLZ 5000 Series	LL-34	400	2.4 ~ 24		No. 3120A	

For further detailed specifications, see the following pages.

● MTZ Series (Pd = 500mW Package: DO-34)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ2.0	1.88	2.20	20
MTZ2.0A	1.880	2.100	
MTZ2.0B	2.020	2.200	
MTZ2.2	2.09	2.41	20
MTZ2.2A	2.120	2.300	
MTZ2.2B	2.220	2.410	
MTZ2.4	2.30	2.64	20
MTZ2.4A	2.330	2.520	
MTZ2.4B	2.430	2.630	
MTZ2.7	2.5	2.9	20
MTZ2.7A	2.540	2.750	
MTZ2.7B	2.690	2.910	
MTZ3.0	2.8	3.2	20
MTZ3.0A	2.850	3.070	
MTZ3.0B	3.010	3.220	
MTZ3.3	3.1	3.5	20
MTZ3.3A	3.160	3.380	
MTZ3.3B	3.320	3.530	
MTZ3.6	3.4	3.8	20
MTZ3.6A	3.455	3.695	
MTZ3.6B	3.600	3.845	
MTZ3.9	3.7	4.1	20
MTZ3.9A	3.74	4.01	
MTZ3.9B	3.89	4.16	
MTZ4.3	4.0	4.5	20
MTZ4.3A	4.04	4.29	
MTZ4.3B	4.17	4.43	
MTZ4.3C	4.30	4.57	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ4.7	4.4	4.9	20
MTZ4.7A	4.44	4.68	
MTZ4.7B	4.55	4.80	
MTZ4.7C	4.68	4.93	20
MTZ5.1	4.8	5.4	
MTZ5.1A	4.81	5.07	
MTZ5.1B	4.94	5.20	20
MTZ5.1C	5.09	5.37	
MTZ5.6	5.3	6.0	20
MTZ5.6A	5.28	5.55	
MTZ5.6B	5.45	5.73	
MTZ5.6C	5.61	5.91	20
MTZ6.2	5.8	6.6	
MTZ6.2A	5.78	6.09	
MTZ6.2B	5.96	6.27	20
MTZ6.2C	6.12	6.44	
MTZ6.8	6.4	7.2	20
MTZ6.8A	6.29	6.63	
MTZ6.8B	6.49	6.83	
MTZ6.8C	6.66	7.01	20
MTZ7.5	7.0	7.9	
MTZ7.5A	6.85	7.22	
MTZ7.5B	7.07	7.45	20
MTZ7.5C	7.29	7.67	
MTZ8.2	7.7	8.7	20
MTZ8.2A	7.53	7.92	
MTZ8.2B	7.78	8.19	
MTZ8.2C	8.03	8.45	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ9.1	8.5	9.6	20
MTZ9.1A	8.29	8.73	
MTZ9.1B	8.57	9.01	
MTZ9.1C	8.83	9.30	20
MTZ10	9.4	10.6	
MTZ10A	9.12	9.59	
MTZ10B	9.41	9.90	20
MTZ10C	9.70	10.20	
MTZ10D	9.94	10.44	
MTZ11	10.4	11.6	10
MTZ11A	10.18	10.71	
MTZ11B	10.50	11.05	
MTZ11C	10.82	11.38	10
MTZ12	11.4	12.6	
MTZ12A	11.13	11.71	
MTZ12B	11.44	12.03	10
MTZ12C	11.74	12.35	
MTZ13	12.4	14.1	10
MTZ13A	12.11	12.75	
MTZ13B	12.55	13.21	
MTZ13C	12.99	13.66	

- Notes (1) Zener voltage (V_Z) is measured 40ms after applying the current.
 (2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large-classification values for the same numerical group.
 (3) When ordering, please specify the suffix.

● MTZ Series (Pd = 500mW Package: DO-34)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ15	13.8	15.6	10
MTZ15A	13.44	14.13	
MTZ15B	13.89	14.62	
MTZ15C	14.35	15.09	
MTZ16	15.3	17.1	10
MTZ16A	14.80	15.57	
MTZ16B	15.25	16.04	
MTZ16C	15.69	16.51	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ18	16.8	19.1	10
MTZ18A	16.22	17.06	
MTZ18B	16.82	17.70	
MTZ18C	17.42	18.33	
MTZ20	18.8	21.2	10
MTZ20A	18.02	18.96	
MTZ20B	18.63	19.59	
MTZ20C	19.23	20.22	
MTZ20D	19.72	20.72	

Notes: (1) Zener voltage (V_Z) is measured 40ms after applying the current.
 (2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large-classification values for the same numerical group.
 (3) Zener voltage in main category is measured when stationary.
 When ordering, please specify the suffix.

● MTZ J Series (Pd = 500mW Package: DO-34)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ J2.0	1.880	2.200	5
MTZ J2.0A	1.880	2.100	
MTZ J2.0B	2.020	2.200	
MTZ J2.2	2.120	2.410	5
MTZ J2.2A	2.120	2.300	
MTZ J2.2B	2.220	2.410	
MTZ J2.4	2.330	2.630	5
MTZ J2.4A	2.330	2.520	
MTZ J2.4B	2.430	2.630	
MTZ J2.7	2.540	2.910	5
MTZ J2.7A	2.540	2.750	
MTZ J2.7B	2.690	2.910	
MTZ J3.0	2.850	3.220	5
MTZ J3.0A	2.850	3.070	
MTZ J3.0B	3.010	3.220	
MTZ J3.3	3.160	3.530	5
MTZ J3.3A	3.160	3.380	
MTZ J3.3B	3.320	3.530	
MTZ J3.6	3.455	3.845	5
MTZ J3.6A	3.455	3.695	
MTZ J3.6B	3.600	3.845	
MTZ J3.9	3.74	4.16	5
MTZ J3.9A	3.74	4.01	
MTZ J3.9B	3.89	4.16	
MTZ J4.3	4.04	4.57	5
MTZ J4.3A	4.04	4.29	
MTZ J4.3B	4.17	4.43	
MTZ J4.3C	4.30	4.57	5
MTZ J4.7	4.44	4.93	
MTZ J4.7A	4.44	4.68	
MTZ J4.7B	4.55	4.80	5
MTZ J4.7C	4.68	4.93	
MTZ J5.1	4.81	5.37	5
MTZ J5.1A	4.81	5.07	
MTZ J5.1B	4.94	5.20	
MTZ J5.1C	5.09	5.37	5
MTZ J5.6	5.28	5.91	
MTZ J5.6A	5.28	5.55	
MTZ J5.6B	5.45	5.73	5
MTZ J5.6C	5.61	5.91	
MTZ J6.2	5.78	6.44	5
MTZ J6.2A	5.78	6.09	
MTZ J6.2B	5.96	6.27	
MTZ J6.2C	6.12	6.44	5
MTZ J6.8	6.29	7.01	
MTZ J6.8A	6.29	6.63	
MTZ J6.8B	6.49	6.83	5
MTZ J6.8C	6.66	7.01	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ J7.5	6.85	7.67	5
MTZ J7.5A	6.85	7.22	
MTZ J7.5B	7.07	7.45	
MTZ J7.5C	7.29	7.67	5
MTZ J8.2	7.53	8.45	
MTZ J8.2A	7.53	7.92	
MTZ J8.2B	7.78	8.19	5
MTZ J8.2C	8.03	8.45	
MTZ J9.1	8.29	9.30	5
MTZ J9.1A	8.29	8.73	
MTZ J9.1B	8.57	9.01	
MTZ J9.1C	8.83	9.30	5
MTZ J10	9.12	10.44	
MTZ J10A	9.12	9.59	
MTZ J10B	9.41	9.90	5
MTZ J10C	9.70	10.20	
MTZ J10D	9.94	10.44	5
MTZ J11	10.18	11.38	
MTZ J11A	10.18	10.71	
MTZ J11B	10.50	11.05	5
MTZ J11C	10.82	11.38	
MTZ J12	11.13	12.35	5
MTZ J12A	11.13	11.71	
MTZ J12B	11.44	12.03	
MTZ J12C	11.74	12.35	5
MTZ J13	12.11	13.66	
MTZ J13A	12.11	12.75	
MTZ J13B	12.55	13.21	5
MTZ J13C	12.99	13.66	
MTZ J15	13.44	15.09	5
MTZ J15A	13.44	14.13	
MTZ J15B	13.89	14.62	
MTZ J15C	14.35	15.09	5
MTZ J16	14.80	16.51	
MTZ J16A	14.80	15.57	
MTZ J16B	15.25	16.04	5
MTZ J16C	15.69	16.51	
MTZ J18	16.22	18.33	5
MTZ J18A	16.22	17.06	
MTZ J18B	16.82	17.70	
MTZ J18C	17.42	18.33	5
MTZ J20	18.02	20.72	
MTZ J20A	18.02	18.96	
MTZ J20B	18.63	19.59	5
MTZ J20C	19.23	20.22	
MTZ J20D	19.72	20.72	

☆ Under Development

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
MTZ J22	20.15	22.63	5
MTZ J22A	20.15	21.20	
MTZ J22B	20.64	21.71	
MTZ J22C	21.08	22.17	
MTZ J22D	21.52	22.63	5
MTZ J24	22.05	24.85	
MTZ J24A	22.05	23.18	
MTZ J24B	22.61	23.77	
MTZ J24C	23.12	24.31	5
MTZ J24D	23.63	24.85	
MTZ J27	24.26	27.64	
MTZ J27A	24.26	25.52	
MTZ J27B	24.97	26.26	5
MTZ J27C	25.63	26.95	
MTZ J27D	26.69	27.64	
MTZ J30	26.99	30.51	5
MTZ J30A	26.99	28.39	
MTZ J30B	27.70	29.13	
MTZ J30C	28.36	29.82	
MTZ J30D	29.02	30.51	5
MTZ J33	29.68	33.11	
MTZ J33A	29.68	31.22	
MTZ J33B	30.32	31.88	
MTZ J33C	30.90	32.50	5
MTZ J33D	31.49	33.11	
MTZ J36	32.14	35.77	
MTZ J36A	32.14	33.79	
MTZ J36B	32.79	34.49	5
MTZ J36C	33.40	35.13	
MTZ J36D	34.01	35.77	
MTZ J39	34.68	40.08	5
MTZ J39A	34.68	36.47	
MTZ J39B	35.36	37.19	
MTZ J39C	36.00	37.85	
MTZ J39D	36.63	38.52	5
☆ MTZ J39E	37.36	39.29	
☆ MTZ J39F	38.14	40.11	
☆ MTZ J39G	38.94	40.80	
☆ MTZ J43	40.00	45.00	5
☆ MTZ J47	44.00	49.00	5
☆ MTZ J51	48.00	54.00	5
☆ MTZ J56	53.00	60.00	5

Notes: (1) Zener voltage (V_Z) is measured 40ms after applying the current.
 (2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large-classification values for the same numerical group.
 When ordering, please specify the suffix.

● RLZ Series (Pd = 400mW Package: LL-34)

☆ Under Development

Type	V _Z (V)		I _Z (mA)
	Min	Max.	
RLZ2.0	1.88	2.20	20
RLZ2.0A	1.880	2.100	
RLZ2.0B	2.020	2.200	
RLZ2.2	2.09	2.41	20
RLZ2.2A	2.120	2.300	
RLZ2.2B	2.220	2.410	
RLZ2.4	2.30	2.64	20
RLZ2.4A	2.330	2.520	
RLZ2.4B	2.430	2.630	
RLZ2.7	2.5	2.9	20
RLZ2.7A	2.540	2.750	
RLZ2.7B	2.690	2.910	
RLZ3.0	2.8	3.2	20
RLZ3.0A	2.850	3.070	
RLZ3.0B	3.010	3.220	
RLZ3.3	3.1	3.5	20
RLZ3.3A	3.160	3.380	
RLZ3.3B	3.320	3.530	
RLZ3.6	3.4	3.8	20
RLZ3.6A	3.455	3.695	
RLZ3.6B	3.600	3.845	
RLZ3.9	3.7	4.1	20
RLZ3.9A	3.74	4.01	
RLZ3.9B	3.89	4.16	
RLZ4.3	4.0	4.5	20
RLZ4.3A	4.04	4.29	
RLZ4.3B	4.17	4.43	
RLZ4.3C	4.30	4.57	20
RLZ4.7	4.4	4.9	
RLZ4.7A	4.44	4.68	
RLZ4.7B	4.55	4.80	
RLZ4.7C	4.68	4.93	20
RLZ5.1	4.8	5.4	
RLZ5.1A	4.81	5.07	
RLZ5.1B	4.94	5.20	20
RLZ5.1C	5.09	5.37	
RLZ5.6	5.3	6.0	20
RLZ5.6A	5.28	5.55	
RLZ5.6B	5.45	5.73	
RLZ5.6C	5.61	5.91	20
RLZ6.2	5.8	6.6	
RLZ6.2A	5.78	6.09	
RLZ6.2B	5.96	6.27	
RLZ6.2C	6.12	6.44	20
RLZ6.8	6.4	7.2	
RLZ6.8A	6.29	6.63	
RLZ6.8B	6.49	6.83	20
RLZ6.8C	6.66	7.01	

Type	V _Z (V)		I _Z (mA)
	Min	Max.	
RLZ7.5	7.0	7.9	20
RLZ7.5A	6.85	7.22	
RLZ7.5B	7.07	7.45	
RLZ7.5C	7.29	7.67	20
RLZ8.2	7.7	8.7	
RLZ8.2A	7.53	7.92	
RLZ8.2B	7.78	8.19	20
RLZ8.2C	8.03	8.45	
RLZ9.1	8.5	9.6	20
RLZ9.1A	8.29	8.73	
RLZ9.1B	8.57	9.01	
RLZ9.1C	8.83	9.30	20
RLZ10	9.4	10.6	
RLZ10A	9.12	9.59	
RLZ10B	9.41	9.90	20
RLZ10C	9.70	10.20	
RLZ10D	9.94	10.44	20
RLZ11	10.4	11.6	
RLZ11A	10.18	10.71	
RLZ11B	10.50	11.05	10
RLZ11C	10.82	11.38	
RLZ12	11.4	12.6	10
RLZ12A	11.13	11.71	
RLZ12B	11.44	12.03	
RLZ12C	11.74	12.35	10
RLZ13	12.4	14.1	
RLZ13A	12.11	12.75	
RLZ13B	12.55	13.21	10
RLZ13C	12.99	13.66	
RLZ15	13.8	15.6	10
RLZ15A	13.44	14.13	
RLZ15B	13.89	14.62	
RLZ15C	14.35	15.09	10
RLZ16	15.3	17.1	
RLZ16A	14.80	15.57	
RLZ16B	15.25	16.04	10
RLZ16C	15.69	16.51	
RLZ18	16.8	19.1	10
RLZ18A	16.22	17.06	
RLZ18B	16.82	17.70	
RLZ18C	17.42	18.33	10
RLZ20	18.8	21.2	
RLZ20A	18.02	18.96	
RLZ20B	18.63	19.59	10
RLZ20C	19.23	20.22	
RLZ20D	19.72	20.72	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
RLZ22	20.8	23.3	5
RLZ22A	20.15	21.20	
RLZ22B	20.64	21.71	
RLZ22C	21.08	22.17	5
RLZ22D	21.52	22.63	
RLZ24	22.8	25.6	5
RLZ24A	22.05	23.18	
RLZ24B	22.61	23.77	
RLZ24C	23.12	24.31	5
RLZ24D	23.63	24.85	
RLZ27	25.1	28.9	5
RLZ27A	24.26	25.52	
RLZ27B	24.97	26.26	
RLZ27C	25.63	26.95	5
RLZ27D	26.29	27.64	
RLZ30	28.0	32.0	5
RLZ30A	26.99	28.39	
RLZ30B	27.70	29.13	
RLZ30C	28.36	29.82	5
RLZ30D	29.02	30.51	
RLZ33	31.0	35.0	5
RLZ33A	29.68	31.22	
RLZ33B	30.32	31.88	
RLZ33C	30.90	32.50	5
RLZ33D	31.49	33.11	
RLZ36	34.0	38.0	5
RLZ36A	32.14	33.79	
RLZ36B	32.79	34.49	
RLZ36C	33.40	35.13	5
RLZ36D	34.01	35.77	
RLZ39	37.0	41.0	5
RLZ39A	34.68	36.47	
RLZ39B	35.36	37.19	
RLZ39C	36.00	37.85	5
RLZ39D	36.63	38.52	
☆ RLZ41	37.00	41.00	5
☆ RLZ43	40.00	45.00	5
☆ RLZ47	44.00	49.00	5
☆ RLZ51	48.00	54.00	5
☆ RLZ56	53.00	60.00	5

Notes (1) Zener voltage (V_Z) is measured 40ms after applying the current.
 (2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large-classification values for the same numerical group.
 (3) When ordering, please specify the suffix.

● RLZ J Series (Pd = 400mW Package: LL-34)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
☆ RLZ J2.0	1.90	2.20	5
☆ RLZ J2.2	2.10	2.40	5
☆ RLZ J2.4	2.30	2.60	5
☆ RLZ J2.7	2.50	2.90	5
☆ RLZ J2.7A	2.50	2.75	5
☆ RLZ J2.7B	2.65	2.90	5
☆ RLZ J3.0	2.80	3.20	5
☆ RLZ J3.0A	2.80	3.05	5
☆ RLZ J3.0B	2.95	3.20	5
☆ RLZ J3.3	3.10	3.50	5
☆ RLZ J3.3A	3.10	3.35	5
☆ RLZ J3.3B	3.25	3.50	5
RLZ J3.6	3.4	3.8	5
RLZ J3.6A	3.40	3.65	5
RLZ J3.6B	3.55	3.80	5
RLZ J3.9	3.7	4.1	5
RLZ J3.9A	3.70	3.97	5
RLZ J3.9B	3.87	4.10	5
RLZ J4.3	4.0	4.5	5
RLZ J4.3A	4.00	4.23	5
RLZ J4.3B	4.13	4.35	5
RLZ J4.3C	4.25	4.50	5
RLZ J4.7	4.4	4.9	5
RLZ J4.7A	4.40	4.63	5
RLZ J4.7B	4.53	4.76	5
RLZ J4.7C	4.66	4.90	5
RLZ J5.1	4.8	5.4	5
RLZ J5.1A	4.80	5.07	5
RLZ J5.1B	4.97	5.24	5
RLZ J5.1C	5.14	5.40	5
RLZ J5.6	5.3	6.0	5
RLZ J5.6A	5.30	5.63	5
RLZ J5.6B	5.43	5.81	5
RLZ J5.6C	5.61	6.00	5

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
RLZ J6.2	5.8	6.6	5
RLZ J6.2A	5.80	6.20	5
RLZ J6.2B	6.00	6.39	5
RLZ J6.2C	6.19	6.60	5
RLZ J6.8	6.4	7.2	5
RLZ J6.8A	6.40	6.80	5
RLZ J6.8B	6.60	7.02	5
RLZ J6.8C	6.82	7.20	5
RLZ J7.5	7.0	7.9	5
RLZ J7.5A	7.00	7.43	5
RLZ J7.5B	7.23	7.66	5
RLZ J7.5C	7.46	7.90	5
RLZ J8.2	7.7	8.7	5
RLZ J8.2A	7.70	8.16	5
RLZ J8.2B	7.96	8.43	5
RLZ J8.2C	8.23	8.70	5
RLZ J9.1	8.5	9.6	5
RLZ J9.1A	8.50	9.00	5
RLZ J9.1B	8.80	9.30	5
RLZ J9.1C	9.10	9.60	5
RLZ J10	9.4	10.6	5
RLZ J10A	9.40	9.93	5
RLZ J10B	9.73	10.26	5
RLZ J10C	10.06	10.60	5
RLZ J11	10.4	11.6	5
RLZ J11A	10.40	10.98	5
RLZ J11B	10.73	11.26	5
RLZ J11C	11.06	11.60	5
RLZ J12	11.4	12.6	5
RLZ J12A	11.40	11.93	5
RLZ J12B	11.73	12.26	5
RLZ J12C	12.06	12.60	5
RLZ J13	12.4	14.1	5
RLZ J13A	12.40	13.08	5

☆ Under Development

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
RLZ J13B	12.88	13.57	5
RLZ J13C	13.37	14.10	5
RLZ J15	13.8	15.6	5
RLZ J15A	13.80	14.63	5
RLZ J15B	14.33	15.11	5
RLZ J15C	14.81	15.60	5
RLZ J16	15.3	17.1	5
RLZ J16A	15.30	16.10	5
RLZ J16B	15.80	16.60	5
RLZ J16C	16.30	17.10	5
RLZ J18	16.8	19.1	5
RLZ J18A	16.80	17.76	5
RLZ J18B	17.46	18.43	5
RLZ J18C	18.13	19.10	5
RLZ J20	18.8	21.2	5
RLZ J20A	18.80	19.78	5
RLZ J20B	19.48	20.46	5
RLZ J20C	20.16	21.20	5
RLZ J22	20.8	23.3	5
RLZ J22A	20.80	21.88	5
RLZ J22B	21.48	22.56	5
RLZ J22C	22.16	23.30	5
RLZ J24	22.8	25.6	5
RLZ J24A	22.80	24.11	5
RLZ J24B	23.61	24.92	5
RLZ J24C	24.42	25.60	5
☆ RLZ J27	25.10	28.90	2
☆ RLZ J30	28.00	32.00	2
☆ RLZ J33	31.00	35.00	2
☆ RLZ J36	34.00	38.00	2
☆ RLZ J39	37.00	41.00	2
☆ RLZ J43	40.00	45.00	2
☆ RLZ J47	44.00	49.00	2

Notes: (1) Zener voltage (V_Z) is measured 40ms after applying the current.(2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large-classification values for the same numerical group. When ordering, please specify the suffix.

● RLZ 5000 Series (Pd = 400mW Package: LL-34)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
☆ RLZ5221B	2.28	2.52	20
☆ RLZ5222B	2.38	2.63	20
☆ RLZ5223B	2.57	2.84	20
☆ RLZ5224B	2.66	2.94	20
☆ RLZ5225B	2.85	3.15	20
☆ RLZ5226B	3.14	3.47	20
☆ RLZ5227B	3.42	3.78	20
☆ RLZ5228B	3.71	4.10	20
☆ RLZ5229B	4.09	4.52	20
☆ RLZ5230B	4.47	4.94	20
RLZ5231B	4.85	5.36	20

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
RLZ5232B	5.32	5.88	20
RLZ5233B	5.70	6.30	20
☆ RLZ5234B	5.89	6.51	20
RLZ5235B	6.46	7.14	20
RLZ5236B	7.13	7.88	20
RLZ5237B	7.79	8.61	20
RLZ5238B	8.27	9.14	20
RLZ5239B	8.65	9.56	20
RLZ5240B	9.50	10.50	20
RLZ5241B	10.45	11.55	20
RLZ5242B	11.40	12.60	200

☆ Under Development

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
RLZ5243B	12.35	13.65	9.5
RLZ5244B	13.30	14.70	9.0
RLZ5245B	14.25	15.75	8.5
RLZ5246B	15.20	16.80	7.8
RLZ5247B	16.15	17.85	7.4
RLZ5248B	17.10	18.90	7.0
RLZ5249B	18.05	19.95	6.6
RLZ5250B	19.00	21.00	6.2
RLZ5251B	20.90	23.10	5.6
RLZ5252B	22.80	25.20	5.2

Notes: (1) The Zener voltage (V_Z) is measured at a stationary state.(2) The ON resistances (Z_Z, Z_{ZK}) are measured by superimposing a small a.c. current on the rated current (I_Z).

• UTZ J Series (Pd = 350mW Package: USD)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
UTZ J4.7	4.42	4.90	5
UTZ J4.7A	4.42	4.61	
UTZ J4.7B	4.55	4.75	
UTZ J4.7C	4.69	4.90	
UTZ J5.1	4.84	5.37	5
UTZ J5.1A	4.84	5.04	
UTZ J5.1B	4.98	5.20	
UTZ J5.1C	5.14	5.37	
UTZ J5.6	5.31	5.92	5
UTZ J5.6A	5.31	5.55	
UTZ J5.6B	5.49	5.73	
UTZ J5.6C	5.67	5.92	
UTZ J6.2	5.86	6.53	5
UTZ J6.2A	5.86	6.12	
UTZ J6.2B	6.06	6.33	
UTZ J6.2C	6.26	6.53	
UTZ J6.8	6.47	7.14	5
UTZ J6.8A	6.47	6.73	
UTZ J6.8B	6.65	6.93	
UTZ J6.8C	6.86	7.14	
UTZ J7.5	7.06	7.84	5
UTZ J7.5A	7.06	7.36	
UTZ J7.5B	7.28	7.60	
UTZ J7.5C	7.52	7.84	
UTZ J8.2	7.76	8.64	5
UTZ J8.2A	7.76	8.10	
UTZ J8.2B	8.02	8.36	
UTZ J8.2C	8.28	8.64	
UTZ J9.1	8.56	9.55	5
UTZ J9.1A	8.56	8.93	
UTZ J9.1B	8.85	9.23	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
UTZ J9.1C	9.15	9.55	5
UTZ J10	9.45	10.55	5
UTZ J10A	9.45	9.87	
UTZ J10B	9.77	10.21	
UTZ J10C	10.11	10.55	
UTZ J11	10.44	11.56	5
UTZ J11A	10.44	10.88	
UTZ J11B	10.76	11.22	
UTZ J11C	11.10	11.56	
UTZ J12	11.42	12.60	5
UTZ J12A	11.42	11.90	
UTZ J12B	11.74	12.24	
UTZ J12C	12.08	12.60	
UTZ J13	12.47	13.96	5
UTZ J13A	12.47	13.03	
UTZ J13B	12.91	13.49	
UTZ J13C	13.37	13.96	
UTZ J15	13.84	15.52	5
UTZ J15A	13.84	14.46	
UTZ J15B	14.34	14.98	
UTZ J15C	14.85	15.52	
UTZ J16	15.37	17.09	5
UTZ J16A	15.37	16.01	
UTZ J16B	15.85	16.51	
UTZ J16C	16.35	17.09	
UTZ J18	16.94	19.03	5
UTZ J18A	16.94	17.70	
UTZ J18B	17.56	18.35	
UTZ J18C	18.21	19.03	
UTZ J20	18.86	21.08	5
UTZ J20A	18.86	19.70	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
UTZ J20B	19.52	20.39	5
UTZ J20C	20.21	21.08	
UTZ J22	20.88	23.17	5
UTZ J22A	20.88	21.77	
UTZ J22B	21.54	22.47	
UTZ J22C	22.23	23.17	5
UTZ J24	22.93	25.57	
UTZ J24A	22.93	23.96	
UTZ J24B	23.72	24.78	5
UTZ J24C	24.54	25.57	
UTZ J27	25.20	28.61	5
UTZ J27A	25.20	26.50	
UTZ J27B	26.19	27.53	
UTZ J27C	27.21	28.61	5
UTZ J30	28.22	31.74	
UTZ J30A	28.22	29.66	
UTZ J30B	29.19	30.69	5
UTZ J30C	30.20	31.74	
UTZ J33	31.18	34.83	5
UTZ J33A	31.18	32.78	
UTZ J33B	32.15	33.79	
UTZ J33C	33.13	34.83	5
UTZ J36	34.12	37.91	
UTZ J36A	34.12	35.86	
UTZ J36B	35.07	36.87	5
UTZ J36C	36.07	37.91	
UTZ J39	37.04	40.99	5
UTZ J39A	37.04	38.94	
UTZ J39B	38.00	39.94	
UTZ J39C	38.99	40.99	

Notes: (1) Zener voltage (V_Z) is measured 40ms after applying the current.

(2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large classification values for the same numerical group. When ordering, please specify the suffix.

● DTZ Series (Pd = 200mW package: DSM)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
DTZ 2.0	1.880	2.200	5
DTZ 2.0A	1.880	2.100	
DTZ 2.0B	2.020	2.200	5
DTZ 2.2	2.120	2.410	
DTZ 2.2A	2.120	2.300	5
DTZ 2.2B	2.220	2.410	
DTZ 2.4	2.330	2.630	5
DTZ 2.4A	2.330	2.520	
DTZ 2.4B	2.430	2.630	5
DTZ 2.7	2.540	2.910	
DTZ 2.7A	2.540	2.750	5
DTZ 2.7B	2.690	2.910	
DTZ 3.0	2.850	3.220	5
DTZ 3.0A	2.850	3.070	
DTZ 3.0B	3.010	3.220	5
DTZ 3.3	3.160	3.530	
DTZ 3.3A	3.160	3.380	5
DTZ 3.3B	3.320	3.530	
DTZ 3.6	3.455	3.845	5
DTZ 3.6A	3.455	3.695	
DTZ 3.6B	3.600	3.845	5
DTZ 3.9	3.740	4.160	
DTZ 3.9A	3.740	4.010	5
DTZ 3.9B	3.890	4.160	
DTZ 4.3	4.04	4.57	5
DTZ 4.3A	4.04	4.29	
DTZ 4.3B	4.17	4.43	5
DTZ 4.3C	4.30	4.57	
DTZ 4.7	4.42	4.90	5
DTZ 4.7A	4.42	4.61	
DTZ 4.7B	4.55	4.75	5
DTZ 4.7C	4.69	4.90	
DTZ 5.1	4.84	5.37	5
DTZ 5.1A	4.84	5.04	
DTZ 5.1B	4.98	5.20	5
DTZ 5.1C	5.14	5.37	
DTZ 5.6	5.31	5.92	5
DTZ 5.6A	5.31	5.55	
DTZ 5.6B	5.49	5.73	5
DTZ 5.6C	5.67	5.92	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
DTZ 6.2	5.86	6.53	5
DTZ 6.2A	5.86	6.12	
DTZ 6.2B	6.06	6.33	5
DTZ 6.2C	6.26	6.53	
DTZ 6.8	6.47	7.14	5
DTZ 6.8A	6.47	6.73	
DTZ 6.8B	6.65	6.93	5
DTZ 6.8C	6.86	7.14	
DTZ 7.5	7.06	7.84	5
DTZ 7.5A	7.06	7.36	
DTZ 7.5B	7.28	7.60	5
DTZ 7.5C	7.52	7.84	
DTZ 8.2	7.76	8.64	5
DTZ 8.2A	7.76	8.10	
DTZ 8.2B	8.02	8.36	5
DTZ 8.2C	8.28	8.64	
DTZ 9.1	8.56	9.55	5
DTZ 9.1A	8.56	8.93	
DTZ 9.1B	8.85	9.23	5
DTZ 9.1C	9.15	9.55	
DTZ 10	9.45	10.55	5
DTZ 10A	9.45	9.87	
DTZ 10B	9.77	10.21	5
DTZ 10C	10.11	10.55	
DTZ 11	10.44	11.56	5
DTZ 11A	10.44	10.88	
DTZ 11B	10.76	11.22	5
DTZ 11C	11.10	11.56	
DTZ 12	11.42	12.60	5
DTZ 12A	11.42	11.90	
DTZ 12B	11.74	12.24	5
DTZ 12C	12.08	12.60	
DTZ 13	12.47	13.96	5
DTZ 13A	12.47	13.03	
DTZ 13B	12.91	13.49	5
DTZ 13C	13.37	13.96	
DTZ 15	13.84	15.52	5
DTZ 15A	13.84	14.46	
DTZ 15B	14.34	14.98	5
DTZ 15C	14.85	15.52	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
DTZ 16	15.37	17.09	5
DTZ 16A	15.37	16.01	
DTZ 16B	15.85	16.51	5
DTZ 16C	16.35	17.09	
DTZ 18	16.94	19.03	5
DTZ 18A	16.94	17.70	
DTZ 18B	17.56	18.35	5
DTZ 18C	18.21	19.03	
DTZ 20	18.86	21.08	5
DTZ 20A	18.86	19.70	
DTZ 20B	19.52	20.39	5
DTZ 20C	20.21	21.08	
DTZ 22	20.88	23.17	5
DTZ 22A	20.88	21.77	
DTZ 22B	21.54	22.47	5
DTZ 22C	22.23	23.17	
DTZ 24	22.93	25.57	5
DTZ 24A	22.93	23.96	
DTZ 24B	23.72	24.78	5
DTZ 24C	25.54	25.57	
DTZ 27	25.20	28.61	5
DTZ 27A	25.20	26.50	
DTZ 27B	26.19	27.53	5
DTZ 27C	27.21	28.61	
DTZ 30	28.22	31.74	5
DTZ 30A	28.22	29.66	
DTZ 30B	29.19	30.69	5
DTZ 30C	30.20	31.74	
DTZ 33	31.18	34.83	5
DTZ 33A	31.18	32.78	
DTZ 33B	32.15	33.79	5
DTZ 33C	33.13	34.83	
DTZ 36	34.12	37.91	5
DTZ 36A	34.12	35.86	
DTZ 36B	35.07	36.87	5
DTZ 36C	36.07	37.91	

Notes (1) Zener voltage (V_Z) of a type with suffix is measured 40ms after applying the current.

(2) The min. & max. zener voltages (V_Z) of a type without alphabetical suffix are large-classification values for the same numerical group. When ordering, please specify the suffix.

● 1N746 ~ 1N759 (Pd = 400mW Package: DO-35)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
☆ 1N746	2.97	3.63	20
☆ 1N746A	3.14	3.47	
☆ 1N747	3.24	3.96	20
☆ 1N747A	3.42	3.78	
☆ 1N748	3.51	4.29	20
☆ 1N748A	3.71	4.10	
☆ 1N749	3.87	4.73	20
☆ 1N749A	4.09	4.52	
☆ 1N750	4.23	5.17	20
☆ 1N750A	4.47	4.94	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N751	4.59	5.61	20
1N751A	4.85	5.36	
1N752	5.04	6.16	20
1N752A	5.32	5.88	
1N753	5.58	6.82	20
1N753A	5.89	6.51	
1N754	6.12	7.48	20
1N754A	6.46	7.14	
1N755	6.75	8.25	20
1N755A	7.13	7.88	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N756	7.38	9.05	20
1N756A	7.79	8.61	
1N757	8.19	10.01	20
1N757A	8.65	9.56	
1N758	9.00	11.00	20
1N758A	9.50	10.50	
1N759	10.80	13.20	20
1N759A	11.40	12.60	

● 1N957 ~ 1N970 (Pd = 400mW Package: DO-35)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N957	5.44	8.16	18.5
1N957A	6.12	7.48	
1N957B	6.46	7.14	
1N958	6.00	9.00	16.5
1N958A	6.75	8.25	
1N958B	7.13	7.88	
1N959	6.56	9.84	15.0
1N959A	7.38	9.02	
1N959B	7.79	8.61	
1N960	7.28	10.92	14.0
1N960A	8.19	10.01	
1N960B	8.65	9.56	
1N961	8.00	12.00	12.5
1N961A	9.00	11.00	
1N961B	9.50	10.50	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N962	8.80	13.20	11.5
1N962A	9.90	12.10	
1N962B	10.45	11.55	
1N963	9.60	14.40	10.5
1N963A	10.80	13.20	
1N963B	11.40	12.60	
1N964	10.40	15.60	9.5
1N964A	11.70	14.30	
1N964B	12.35	13.65	
1N965	12.00	18.00	8.5
1N965A	13.50	16.50	
1N965B	14.25	15.75	
1N966	12.80	19.20	7.8
1N966A	14.40	17.60	
1N966B	15.20	16.80	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N967	14.40	21.60	7.0
1N967A	16.20	19.80	
1N967B	17.10	18.90	
1N968	16.00	24.00	6.2
1N968A	18.00	22.00	
1N968B	19.00	21.00	
1N969	17.60	26.40	5.6
1N969A	19.80	24.20	
1N969B	20.90	23.10	
1N970	19.20	28.80	5.2
1N970A	21.60	26.40	
1N970B	22.80	25.20	

● 1N5230 ~ 1N5252 (Pd = 500mW Package: DO-35)

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
☆ 1N5230	3.76	5.64	20
☆ 1N5230A	4.23	5.17	
☆ 1N5230B	4.47	4.94	
1N5231	4.08	6.12	20
1N5231A	4.59	5.61	
1N5231B	4.85	5.36	
1N5232	4.48	6.72	20
1N5232A	5.04	6.16	
1N5232B	5.32	5.88	
1N5233	4.80	7.20	20
1N5233A	5.40	6.60	
1N5233B	5.70	6.30	
☆ 1N5234	4.96	7.44	20
☆ 1N5234A	5.58	6.82	
☆ 1N5234B	5.89	6.51	
1N5235	5.44	8.16	20
1N5235A	6.12	7.48	
1N5235B	6.46	7.14	
1N5236	6.00	9.00	20
1N5236A	6.75	8.25	
1N5236B	7.13	7.88	
1N5237	6.56	9.84	20
1N5237A	7.38	9.02	
1N5237B	7.79	8.61	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N5238	6.96	10.44	20
1N5238A	7.83	9.57	
1N5238B	8.27	9.14	
1N5239	7.28	10.92	20
1N5239A	8.19	10.01	
1N5239B	8.65	9.56	
1N5240	8.00	12.00	20
1N5240A	9.00	11.00	
1N5240B	9.50	10.50	
1N5241	8.80	13.20	20
1N5241A	9.90	12.10	
1N5241B	10.45	11.55	
1N5242	9.60	14.40	20
1N5242A	10.80	13.20	
1N5242B	11.40	12.60	
1N5243	10.40	15.60	9.5
1N5243A	11.70	14.30	
1N5243B	12.35	13.65	
1N5244	11.20	16.80	9.0
1N5244A	12.60	15.40	
1N5244B	13.30	14.70	
1N5245	12.00	18.00	8.5
1N5245A	13.50	16.50	
1N5245B	14.25	15.75	

Type	V _Z (V)		I _Z (mA)
	Min.	Max.	
1N5246	12.80	19.20	7.8
1N5246A	14.40	17.60	
1N5246B	15.20	16.80	
1N5247	13.60	20.40	7.4
1N5247A	15.30	18.70	
1N5247B	16.15	17.85	
1N5248	14.40	21.60	7.0
1N5248A	16.20	19.80	
1N5248B	17.10	18.90	
1N5249	15.20	22.80	6.6
1N5249A	17.10	20.90	
1N5249B	18.05	19.95	
1N5250	16.00	24.00	6.2
1N5250A	18.00	22.00	
1N5250B	19.00	21.00	
1N5251	17.60	26.40	5.6
1N5251A	19.80	24.20	
1N5251B	20.90	23.10	
1N5252	19.20	28.80	5.2
1N5252A	21.60	26.40	
1N5252B	22.80	25.20	

Note: Zener voltage (V_Z) is measured 90 sec after applying the current.

● Special Zener Diodes

Type	V _Z (V)		I _Z (mA)	Pd (mW)	Package	Features	Reference Catalog
	Min.	Max.					
STZ 6.8T	6.47	7.14	5	200	SMD	Cathode common; 2 built-in elements	No. 2799
ITZ 5.6H	5.28	5.91	20	400	SIP 9 pin	Cathode common; 8 built-in elements	No. 2917