

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

1N5518, A, B, C, D

THRU

1N5546, A, B, C, D

LOW LEAKAGE, LOW NOISE ZENER DIODE

JEDEC DO-35 CASE

## DESCRIPTION

The Central Semiconductor 1N5518 Series types are Silicon Avalanche Zener Diodes designed for applications requiring low noise, low leakage, low current and low impedance.

## MAXIMUM RATINGS ( $T_A=50^\circ\text{C}$ )

	SYMBOL	UNIT
Power Dissipation Operating and Storage	$P_D$	400 mW
Junction Temperature	$T_J, T_{stg}$	-65 TO +200 $^\circ\text{C}$

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

JEDEC Type No. (note 1)	Nominal Zener Voltage $V_Z@I_{ZT}$ (volts)	Test Current $I_{ZT}$ (ma)	Max. Zener Impedance $Z_{ZT}@I_{ZT}$ (ohms) (Note 2)	Max. Reverse Leakage Current		Max. Noise Density at $I_Z=250\mu\text{A}$ $N_p$ $\mu\text{V}/\text{rHz}$ (Note 4)	Max. Regulation Factor (Note 5)		Max. Regulator Current $I_{ZM}$ (mAdc)	Reverse Surge Current $I_r$ (Surge) (mA) (Note 6)	Maximum Temperature Coefficient (%/ $^\circ\text{C}$ ) (+25 to +125 $^\circ\text{C}$ )
				$I_R$ ( $\mu\text{Adc}$ ) (Note 3)	$V_R$ Volts		$\Delta V_Z$ (volts)	$I_{ZL}$ (mAdc)			
1N5518	3.3	20	26	5.0	0.9	0.5	0.90	2.0	115	1800	- .07%
1N5519	3.6	20	24	3.0	0.9	0.5	0.90	2.0	105	1650	- .065
1N5520	3.9	20	22	1.0	0.9	0.5	0.85	2.0	98	1500	- .060
1N5521	4.3	20	18	3.0	1.0	0.5	0.75	2.0	88	1400	- .055 + .020
1N5522	4.7	10	22	2.0	1.5	0.5	0.60	1.0	81	1270	- .043 + .025
1N5523	5.1	5	26	2.0	2.0	0.5	0.65	0.25	75	1170	- .030 + .030
1N5524	5.6	3	30	2.0	3.0	1.0	0.30	0.25	68	1080	- .030 + .045
1N5525	6.2	1	30	1.0	4.5	1.0	0.20	0.01	61	965	+ .050
1N5526	6.8	1	30	1.0	5.5	1.0	0.10	0.01	56	870	+ .052
1N5527	7.5	1	35	0.5	6.0	2.0	0.05	0.01	51	810	+ .058
1N5528	8.2	1	40	0.5	6.5	4.0	0.05	0.01	46	740	+ .062
1N5529	9.1	1	45	0.1	7.0	4.0	0.05	0.01	42	650	+ .068
1N5530	10.0	1	60	0.05	8.0	4.0	0.10	0.01	38	600	+ .075
1N5531	11.0	1	80	0.05	9.0	5.0	0.20	0.01	35	540	+ .075
1N5532	12.0	1	90	0.05	9.5	10	0.20	0.01	32	500	+ .080
1N5533	13.0	1	90	0.01	10.5	15	0.20	0.01	29	470	+ .080
1N5534	14.0	1	100	0.01	11.5	20	0.20	0.01	27	850	+ .082
1N5535	15.0	1	100	0.01	12.5	20	0.20	0.01	25	800	+ .082
1N5536	16.0	1	100	0.01	13.0	20	0.20	0.01	24	750	+ .083
1N5537	17.0	1	100	0.01	14.0	20	0.20	0.01	22	700	+ .085
1N5538	18.0	1	100	0.01	15.0	20	0.20	0.01	21	665	+ .085
1N5539	19.0	1	100	0.01	16.0	20	0.20	0.01	20	630	+ .086
1N5540	20.0	1	100	0.01	17.0	20	0.20	0.01	19	600	+ .086
1N5541	22.0	1	100	0.01	18.0	20	0.25	0.01	17	541	+ .087
1N5542	24.0	1	100	0.01	20.0	20	0.30	0.01	16	511	+ .088
1N5543	25.0	1	100	0.01	21.0	20	0.35	0.01	15	481	+ .090
1N5544	28.0	1	100	0.01	23.0	20	0.40	0.01	14	431	+ .091
1N5545	30.0	1	100	0.01	24.0	20	0.45	0.01	13	400	+ .091
1N5546	33.0	1	100	0.01	28.0	20	0.50	0.01	12	360	+ .092

Note 1: Suffix denotes  $V_Z$  tolerance: none for  $\pm 20\%$ , A for  $\pm 10\%$ , B for  $\pm 5\%$ , C for  $\pm 2\%$ , D for  $\pm 1\%$ .

Note 2: Measured with 10%, 60 Hz AC superimposed on  $I_{ZT}$ .

Note 3: Measured at  $V_R$  as shown in the table.

Note 4: Measured from 1000 to 3000 Hz.

Note 5: Difference between  $V_Z$  at  $I_{ZT}$  and  $I_{ZL}$ .

Note 6: Peak current superimposed on  $I_{ZT}$ ; device will withstand a total of five surges at one minute intervals, each surge being a  $\frac{1}{2}$  square wave pulse of 8.0 msec. duration or an equivalent  $\frac{1}{2}$  sinewave with the same effective rms current.

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### CONTACT US

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