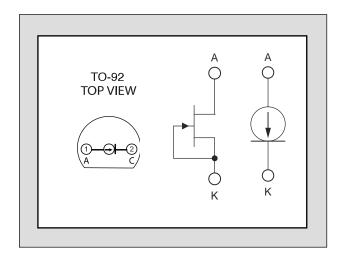


### Twenty-Five Years Of Quality Through Innovation

## J500 SERIES

# CURRENT REGULATING DIODES

FEATURES							
REPLACES SILICONIX/VISHAY J500 SERIES							
WIDE CURRENT RANGE	0.192 to 5.6mA						
BIASING NOT REQUIRED	$V_{GS} = 0V$						
ABSOLUTE MAXIMUM RATINGS <sup>1</sup>							
@ 25 °C (unless otherwise stated)							
Maximum Temperatures							
Storage Temperature	-55 to 150°C						
Junction Operating Temperature	-55 to 150°C						
Maximum Power Dissipation							
Continuous Power Dissipation @25°C	350mW						
Maximum Currents							
Forward Current	20mA						
Reverse Current	50mA						
Maximum Voltages							
Peak Operating Voltage	P <sub>OV</sub> = 50V						



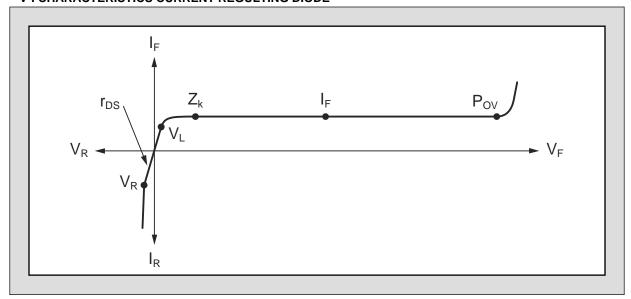
#### COMMON ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
Pov	Peak Operating Voltage <sup>6</sup>	50			V	$I_F = 1.1I_{F(max)}$
$V_R$	Reverse Voltage		0.8		V	$I_R = 1mA$
C <sub>F</sub>	Forward Capacitance		2.2		pF	$V_F = 25V, f = 1MHz$

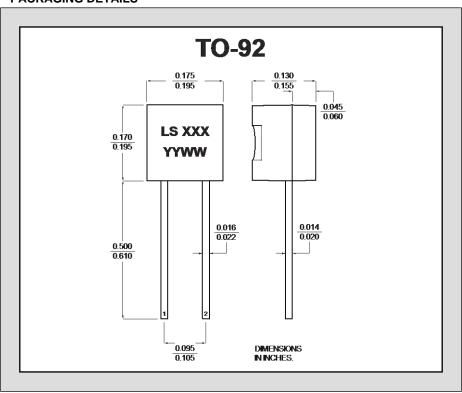
#### SPECIFIC ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

PART	Forward Current <sup>3</sup> I <sub>F(mA)</sub>				mpedance <sup>4</sup>	Knee Impedance Z <sub>k(MΩ)</sub>	Limiting Voltage <sup>5</sup> V <sub>L(V)</sub>	
		$V_F = 25V$		V <sub>F</sub> =	25V	V <sub>F</sub> = 6V	= 6V I <sub>F</sub> = 0.8I <sub>F(min)</sub>	
	MIN	NOM	MAX	MIN	TYP	TYP	TYP	MAX
J500	0.192	0.24	0.288	4.00	15	2.50	0.4	1.2
J501	0.264	0.33	0.396	2.20	10	1.60	0.5	1.3
J502	0.344	0.43	0.516	1.50	7	1.10	0.6	1.5
J503	0.448	0.56	0.672	1.20	5	0.80	0.7	1.7
J504	0.600	0.75	0.900	0.80	3.5	0.55	0.8	1.9
J505	0.800	1.00	1.200	0.50	2.	0.40	0.9	2.1
J506	1.120	1.40	1.680	0.33	1.5	0.25	1.1	2.5
J507	1.440	1.80	2.160	0.20	1	0.19	1.3	2.8
J508	1.900	2.40	2.900	0.20	0.7	0.13	1.5	3.1
J509	2.400	3.00	3.600	0.15	0.5	0.09	1.7	3.5
J510	2.900	3.60	4.300	0.15	0.4	0.07	1.9	3.9
J511	3.800	4.70	5.600	0.12	0.3	0.05	2.1	4.2

#### V-I CHARACTERISTICS CURRENT REGULTING DIODE



#### **PACKAGING DETAILS**



- Absolute maximum ratings are limiting values above which serviceability may be impaired.
- Pulsed, t = 2ms. Steady state currents may vary.
- Pulsed, t = 2ms. Continuous currents may vary.
- Pulsed, t = 2ms. Continuous impedances may vary.
- Min  $V_F$  required to ensure  $I_F = 0.8I_{F(min)}$ .

6. Max V<sub>F</sub> where I<sub>F</sub> = 1.1X<sub>F(max)</sub>. is guaranteed. Pulsed test ≤2<sub>ms</sub>. Information furnished by Linear Integrated Systems is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.

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