

LSJ510 **Current Regulator Diode**



Linear Systems replaces discontinued Siliconix J510

The Linear Systems LSJ510 is a ± 20% range current regulator

The LSJ510 is a ±20% range current regulator designed for demanding applications in test equipment and instrumentation. The LSJ510 utilizes JFET techniques to produce a single twoleaded device which is extremely simple to operate.

- Two-Lead Plastic Package
- Guaranteed ±20% Tolerance
- Operation up to 50V
- **Excellent Temperature Stability**
- Simple Series Circuitry, No Separate Voltage Source
- Tight Guaranteed Circuit Performance
- Excellent Performance in Low-Voltage/Battery Circuits and High-Voltage Spike Protection
- High Circuit Stability vs. Temperature

LSJ510 Applications:

- Constant-Current Supply
- Current-Limiting
- **Timing Circuits**

FEATURES						
REPLACEMENT SOURCE FOR SILICONIX J510						
CURRENT RANGE	3.6mA ± 20%					
BIASING NOT REQUIRED	V _{GS} = 0V					
ABSOLUTE MAXIMUM RATINGS ¹						
@ 25 °C (unless otherwise stated)						
Maximum Temperatures						
Storage Temperature	-55 to 150°C					
Junction Operating Temperature	-55 to 135°C					
Maximum Power Dissipation						
Continuous Power Dissipation @125°C	350mW					
Maximum Currents						
Forward Current	20mA					
Reverse Current	50mA					
Maximum Voltages						
Peak Operating Voltage	P _{OV} = 45V					
4.4.10						

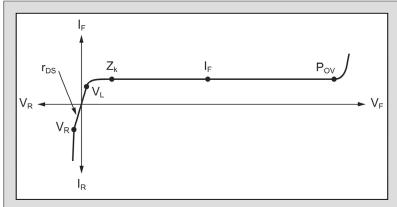
ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
Pov	Peak Operating Voltage ²	50			V	$I_{F} = 1.1I_{F(max)}$
V_R	Reverse Voltage		0.8		٧	$I_R = 1mA$
C _F	Forward Capacitance		2.2		рF	$V_F = 25V, f = 1MHz$

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

PART	Fe	orward Currer I _F	nt ³	Dynamic Impedance ⁴ Z _d		Knee Limiting		Voltage⁵ ′∟
		V _F = 25V			V _F = 25V		$I_{F} = 0.8I_{F(min)}$	
	MIN	NOM	MAX	MIN	TYP	TYP	TYP	MAX
LSJ510	2.900	3.60	4.300	0.15	0.4	0.07	3.9	1.9

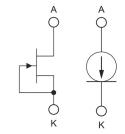
V-I CHARACTERISTICS CURRENT REGULATING DIODE



- 1. Absolute maximum ratings are limiting values above which serviceability may be impaired. 2. Pulsed, t = 2ms. Maximum V_F where IF < 1.1 $_{\rm iF}$ (max).
- 3. Pulsed, t = 2ms. Continuous currents may vary
- 4. Pulsed, t = 2ms. Continuous impedances may vary. 5. Min V_F required to ensure $I_F = 0.8_{IF}$ (min).

LSJ510 Availability:

SOT-23 Bare die TOP VIEW Short Pins 2 & 3



Please contact Micross for full package and die dimensions



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