

Linear Systems replaces discontinued Siliconix J510

The Linear Systems J510 is a $\pm 20\%$ range current regulator

The J510 is a $\pm 20\%$ range current regulator designed for demanding applications in test equipment and instrumentation. The J510 utilizes JFET techniques to produce a single two-lead device which is extremely simple to operate.

- Two-Lead Plastic Package
- Guaranteed $\pm 20\%$ 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

J510 Applications:

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

FEATURES

REPLACEMENT SOURCE FOR SILICONIX J510

CURRENT RANGE	3.6mA $\pm 20\%$
BIASING NOT REQUIRED	$V_{GS} = 0V$

ABSOLUTE MAXIMUM RATINGS¹

@ 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	360mW
-------------------------------------	-------

Maximum Currents

Forward Current	20mA
Reverse Current	50mA

Maximum Voltages

Peak Operating Voltage	$P_{OV} = 50V$
------------------------	----------------

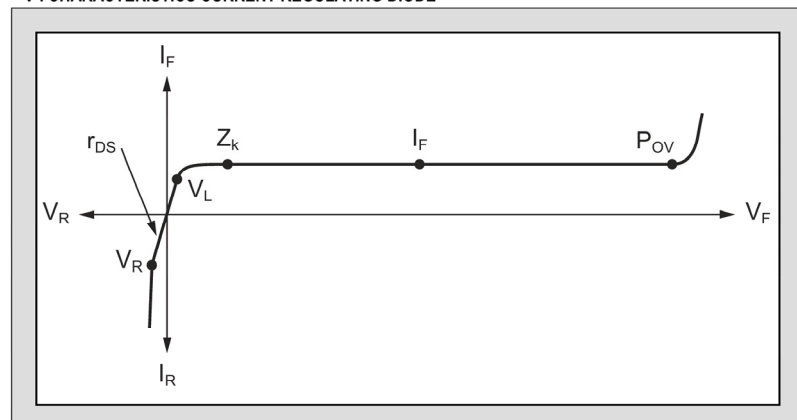
ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
P_{OV}	Peak Operating Voltage ²	50			V	$I_F = 1.1I_{F(max)}$
V_R	Reverse Voltage		0.8		V	$I_R = 1mA$
C_F	Forward Capacitance		2.2		pF	$V_F = 25V, f = 1MHz$

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

PART	Forward Current ³ I_F			Dynamic Impedance ⁴ Z_d		Knee Impedance Z_k	Limiting Voltage ⁵ V_L	
	$V_F = 25V$			$V_F = 25V$		$V_F = 6V$	$I_F = 0.8I_{F(min)}$	
	MIN	NOM	MAX	MIN	TYP	TYP	TYP	MAX
J510	2.900	3.60	4.300	0.15	0.4	0.07	3.9	1.9

V-I CHARACTERISTICS CURRENT REGULATING DIODE



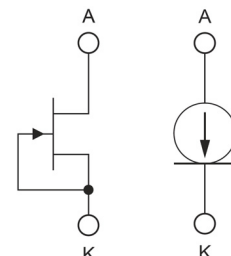
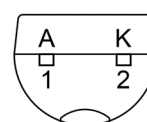
Notes:

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

Available Packages:

TO-92
Bare Die.

TO-92
BOTTOM VIEW



Please contact Micross for full package and die dimensions

Micross Components Europe



Tel: +44 1603 788967

Email: chipcomponents@micross.com

Web: <http://www.micross.com/distribution>

Information furnished by Linear Integrated Systems and Micross Components 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.

Micross Components Ltd, United Kingdom, Tel: +44 1603 788967, Fax: +44 1603788920, Email: chipcomponents@micross.com Web: www.micross.com/distribution.aspx