

## Linear Systems replaces discontinued Siliconix SST506 Current Regulator Diode — $P_{OV}$ (min) 45 V

### Description:

The SST506 belongs to a family of  $\pm 20\%$  range current regulators designed for demanding applications in test equipment and instrumentation. These devices utilize JFET techniques to produce a device which is extremely simple to operate.

### Features:

- Surface-Mount Package
- Guaranteed  $\pm 20\%$  Tolerance
- $P_{OV}$  (min) 45V
- Good Temperature Stability

### SST506 Applications:

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

### Benefits:

- 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

### SST506 Electrical Characteristics @ 25°C (Unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$P_{OV}$	Peak Operating Voltage <sup>2</sup>	45			V	$I_F = 1.1 I_{F(max)}$
$V_R$	Reverse Voltage		0.8		V	$I_R = 1\text{mA}$
$C_F$	Forward Capacitance		1.5		pF	$V_F = 25\text{V}, f = 1\text{MHz}$

### SST506 Specific Electrical Characteristics @ 25°C (Unless otherwise stated)

PART	Forward Current <sup>3</sup> $I_F$			Dynamic Impedance <sup>4</sup> $Z_d$		Knee Impedance $Z_k$	Limiting Voltage <sup>5</sup> $V_L$	
	$V_F = 25\text{V}$			$V_F = 25\text{V}$		$V_F = 6\text{V}$	$I_F = 0.8 I_{F(min)}$	
	MIN	NOM	MAX	MIN	TYP	TYP	TYP	MAX
SST506	1.120	1.40	1.680	0.3	0.8	0.2	2.5	1.1

### Absolute Max Ratings @ 25°C unless otherwise stated

#### Maximum Temperatures

Storage Temperature ..... - 55 to +150°C  
Junction Temperature..... - 55 to +135°C

#### Maximum Power Dissipation

Continuous Power Dissipation ..... 350mW

#### Maximum Currents

Forward Current ..... 20mA  
Reverse Current ..... 50mA

#### Maximum Voltages

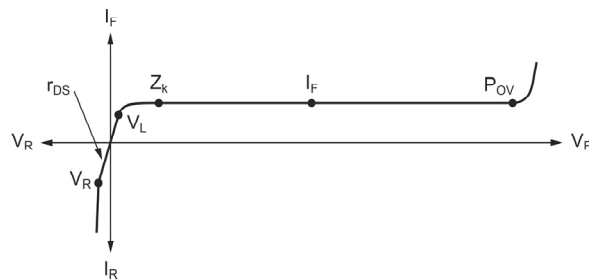
Peak Operating Voltage .....  $P_{OV} = 50\text{V}$

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

For SST506 product enquiries & mechanical details please contact your stocking representative Micross Components

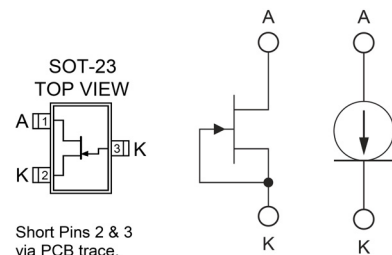
[chipcomponents@micross.com](mailto:chipcomponents@micross.com)

### V-I CURRENT CHARACTERISTICS REGULATING DIODE



### SST506 Availability:

SOT-23  
Bare die



Short Pins 2 & 3 via PCB trace.