New Jersey Semi-Conductor Products, Inc.

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SST508

Current Regulator Diode — P_{OV} (min) 45 V

Description:

The SST508 belongs to a family of ±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 ±20% Tolerance
- P_{OV} (min) 45V
- Good Temperature Stability

SST508 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

SST508 Electrical Characteristics @ 25°C (Unless otherwise stated)

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

SST508 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
SST508	1.900	2.40	2.900	0.1	0.4	0.08	3.1	1.5

Absolute Max Ratings @ 25°C unless otherwise stated

Maximum Temperatures
Storage Temperature . . . . . **– 55 to +150°C**
Junction Temperature . . . . . **– 55 to +135°C**

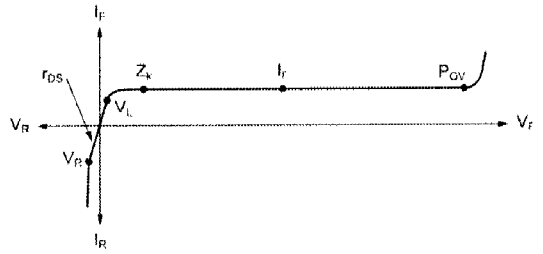
Maximum Power Dissipation
Continuous Power Dissipation **350mW**

Maximum Currents
Forward Current **20mA**
Reverse Current **50mA**

Maximum Voltages
Peak Operating Voltage . . . . . **Pov = 50V**

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 $I_F = 0.8I_{F(min)}$.

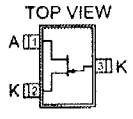
V–I CURRENT CHARACTERISTICS REGULATING DIODE



SST508 Availability:

SOT-23
Bare die

SOT-23
TOP VIEW



Short Pins 2 & 3
via PCB trace.