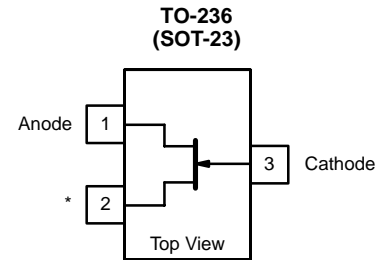




Current Regulator Diodes— $P_{OV(min)}$ 45 V

SST502 SST504 SST506 SST508 SST510
SST503 SST505 SST507 SST509 SST511

PRODUCT SUMMARY					
Part Number	Typ I_F (mA)	Marking	Part Number	Typ I_F (mA)	Marking
SST502	0.43	L2	SST507	1.80	L7
SST503	0.56	L3	SST508	2.40	L8
SST504	0.75	L4	SST509	3.00	L9
SST505	1.00	L5	SST510	3.60	L0
SST506	1.40	L6	SST511	4.70	L1



FEATURES

- Surface-Mount Package
- Guaranteed $\pm 20\%$ Tolerance
- Operation from 1 V (SST502, 3) to 45 V
- Good Temperature Stability

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

APPLICATIONS

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

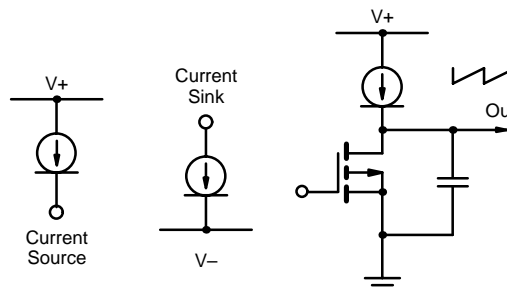
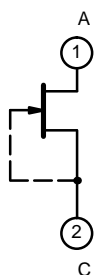
DESCRIPTION

The SST502 series is a family of $\pm 20\%$ range current regulators designed for demanding applications in test equipment and instrumentation. These devices utilize the JFET techniques to produce a device which is extremely simple to operate.

With nominal current ranges from 0.43 mA to 4.7 mA, the SST502 series will meet a wide array of design requirements.

The low-cost TO-236 surface-mount package ensures a cost-effective design solution.

SCHEMATIC DIAGRAM APPLICATIONS



ABSOLUTE MAXIMUM RATINGS

Peak Operating Voltage 45 V
 Reverse Current 50 mA
 Storage Temperature -55 to 150°C

Power Dissipation^a 350 mW

Notes:

a. Derate 2.8 mW/°C above 25°C

SPECIFICATIONS (T _A = 25°C) UNLESS OTHERWISE NOTED						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ ^a	Max	
Peak Operating Voltage ^b	P _{OV}	I _F = 1.1 I _{F(max)}	45	55		V
Reverse Voltage	V _R	I _R = 1 mA		0.8		
Capacitance	C _F	V _F = 25 V, f = 1 MHz		1.5		pF

Part Number	Regulator Current ^c (I _F)			Dynamic Impedance ^d (Z _d)		Knee Impedance (Z _k)	Limiting Voltage ^e (V _L)		Temperature Coefficient (θ ₁)
	V _F = 25 V			V _F = 25 V		V _F = 6 V	I _F = 0.8 I _{F(min)}		V _F = 25 V 0°C ≤ T _A ≤ 100°C
	mA			MΩ		MΩ	V		%/°C
	Min	Nom	Max	Min	Typ ^a	Typ ^a	Max	Typ ^a	Typ ^a
SST502	0.344	0.43	0.516	1.0	2.7	0.7	1.5	0.6	-0.08
SST503	0.448	0.56	0.672	0.7	2.0	0.5	1.7	0.7	-0.12
SST504	0.600	0.75	0.900	0.5	1.5	0.4	1.9	0.8	-0.16
SST505	0.800	1.00	1.200	0.4	1.0	0.3	2.1	0.9	-0.20
SST506	1.120	1.40	1.680	0.3	0.8	0.2	2.5	1.1	-0.24
SST507	1.440	1.80	2.160	0.2	0.6	0.12	2.8	1.3	-0.28
SST508	1.900	2.40	2.900	0.1	0.4	0.08	3.1	1.5	-0.31
SST509	2.400	3.00	3.600	0.09	0.3	0.06	3.5	1.7	-0.34
SST510	2.900	3.60	4.300	0.08	0.3	0.04	3.9	1.9	-0.37
SST511	3.800	4.70	5.600	0.07	0.2	0.03	4.2	2.1	-0.40

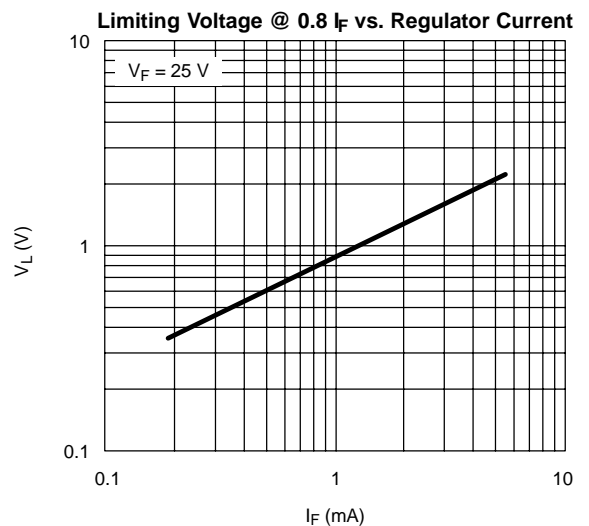
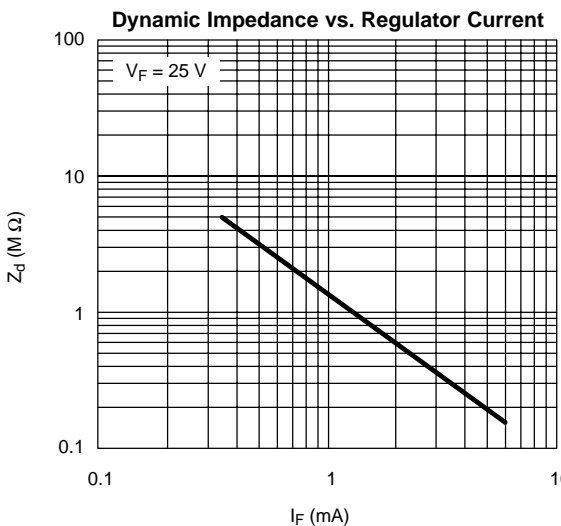
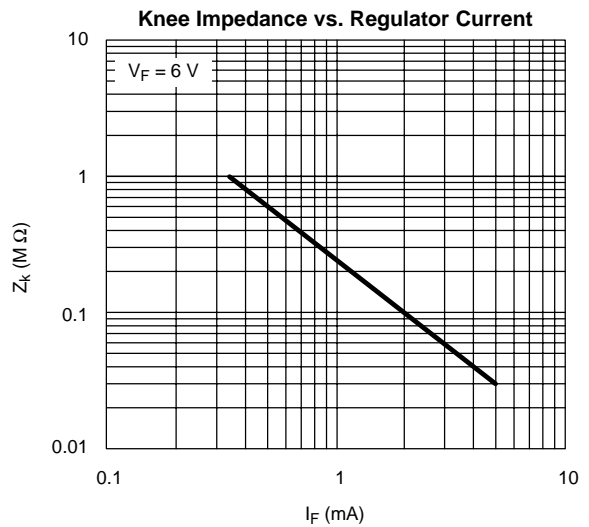
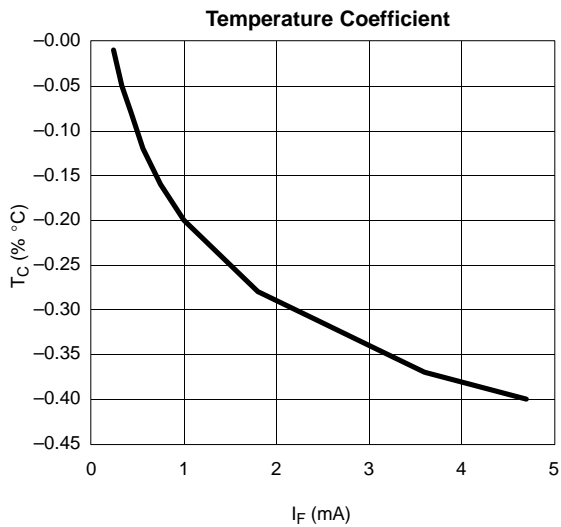
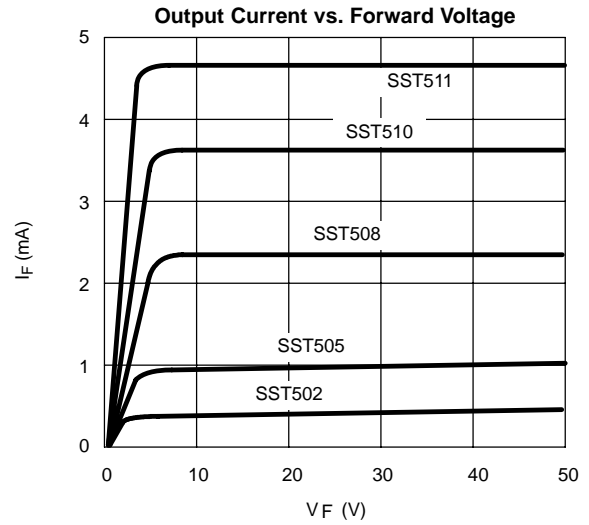
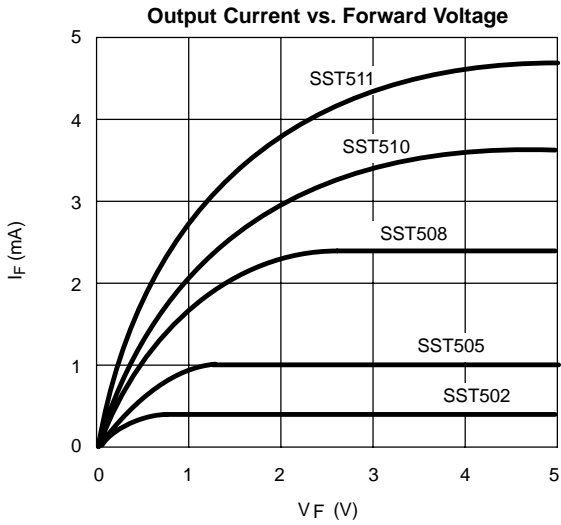
Notes:

- a. Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
- b. Max V_F where I_F = 1.1 I_{F(max)} is guaranteed.
- c. Pulse test—steady state currents may vary.
- d. Pulse test—steady state impedances may vary.
- e. Min V_F required to insure I_F = 0.8 I_{F(min)}.

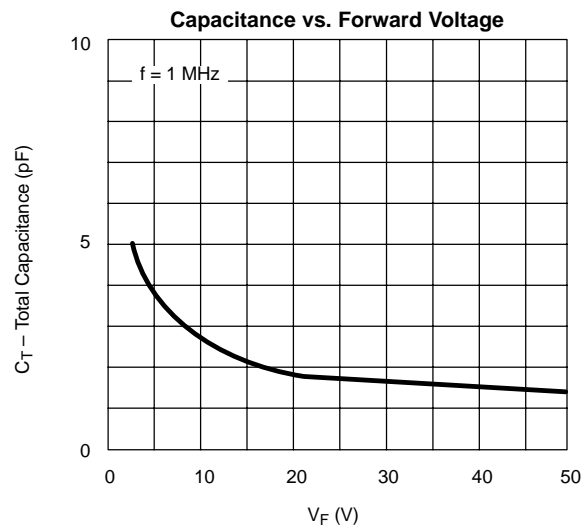
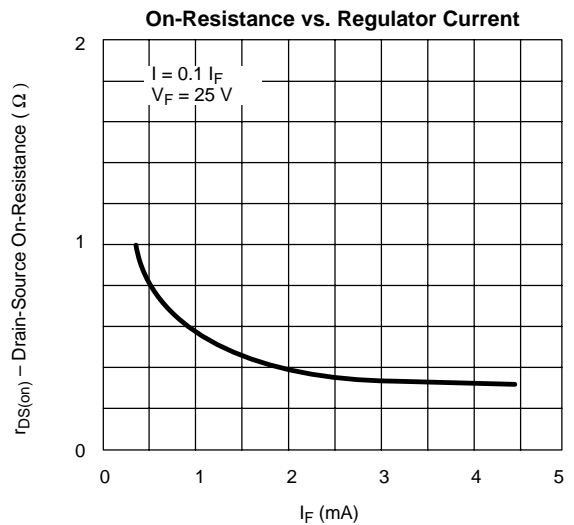
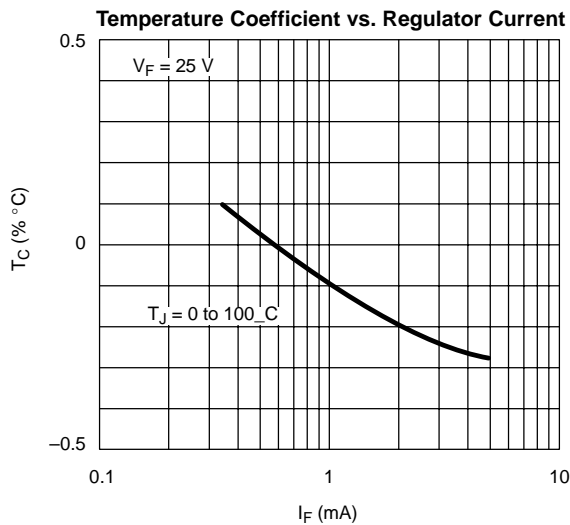
NPA



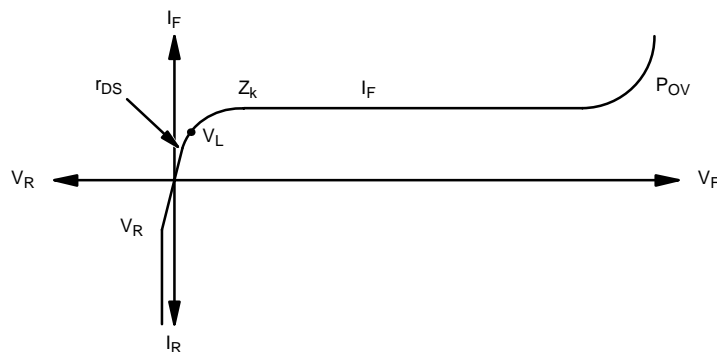
TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)



TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)



CURRENT REGULATOR DIODE V-1 CHARACTERISTIC





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