

J506, J507, J508, J509, J510, J511

Current Regulator Diode

- Current Regulation
- Current Limiting

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

Peak Operating Voltage	50 V
Forward Current	20 mA
Reverse Current	50 mA
Operating & Storage Temperature Range	-55°C to 135°C

At 25°C free air temperature Electrical Characteristics		J506			J507			J508			Process NJ16	
		Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Unit	Test Conditions
Forward Current	I_{F1}	1.12	1.4	1.68	1.44	1.8	2.16	1.9	2.4	2.9	mA	$V_F = 25\text{V}$
		Typ			Typ			Typ				
Limiting Voltage	V_L		1.8	2.5		2.0	2.8		2.2	3.1	V	$I_F = 0.9 I_{F(\text{MIN})}$
Peak Operating Voltage	V_{OP}	50			50			50			V	$I_F = 1.1 I_{F(\text{MAX})}$
Dynamic Impedance	Z_{fi}	0.33	1.4		0.2	1.0		0.2	0.7		MΩ	$V_F = 25\text{V}, f = 1\text{ kHz}$
Anode– Cathode Capacitance	C_F		2			2			2		pF	$V_F = 25\text{V}, f = 1\text{ kHz}$

At 25°C free air temperature Electrical Characteristics		J509			J510			J511			Process NJ16	
		Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	Unit	Test Conditions
Forward Current	I_{F1}	2.4	3.0	3.6	2.9	3.6	4.3	3.8	4.7	5.6	mA	$V_F = 25\text{V}$
		Typ			Typ			Typ				
Limiting Voltage	V_L		2.5	3.5		2.8	3.9		3.0	4.2	V	$I_F = 0.9 I_{F(\text{MIN})}$
Peak Operating Voltage	V_{OP}	50			50			50			V	$I_F = 1.1 I_{F(\text{MAX})}$
Dynamic Impedance	Z_{fi}	0.15	0.6		0.15	0.5		0.12	0.3		MΩ	$V_F = 25\text{V}, f = 1\text{ kHz}$
Anode– Cathode Capacitance	C_F		2			2			2		pF	$V_F = 25\text{V}, f = 1\text{ kHz}$

TO-92 Two-Lead Package

Dimensions in Inches (mm)

Pin Configuration

1 Anode, 2 Cathode

