



J553 SERIES

Current Regulator Diodes

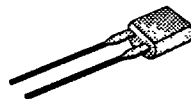
T-11-27

The J553 Series is a low cost family of current regulators designed for demanding applications in test equipment and instrumentation. These devices utilize the proven JFET techniques to produce a single two-lead device which is extremely simple to operate. With nominal current ranges from 0.5 mA to 4.5 mA, the J553 Series will meet a wide array of design requirements. In addition to its two-lead construction, this series feature improved current control over wide temperature ranges and simple "floating" operation as no power supplies are required for biasing. Several of the devices provide effective current control operating down to even 2 volts. Finally, its low-cost TO-92 package ensures a cost effective design solution.

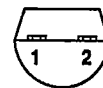
PART	I _F (mA)
J553	0.50
J554	1.00
J555	2.00
J556	3.00
J557	4.50

For additional design information please see performance curves NCL, which are located in Section 7.

TO-92



BOTTOM VIEW



1 ANODE
2 CATHODE

SIMILAR PRODUCTS

- TO-18, See CR022 Series
- Chips, Order J5XXCHP

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMIT	UNITS
Peak Operating Voltage	P _{OV}	50	V
Forward Current	I _F	20	mA
Reverse Current	I _R	50	
Power Dissipation	P _D	360	mW
Power Derating		3.27	mW/°C
Operating Junction Temperature	T _J	-55 to 150	°C
Storage Temperature	T _{stg}	-55 to 200	

4

J553 SERIES



ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

SYMBOL	I _F		Z _d	Z _k	V _L		POV	C _F	θ ₁
	REGULATOR CURRENT	PEAK OPERATING VOLTAGE			LIMITING VOLTAGE	OPERATING VOLTAGE			
PARAMETER	V _F = 25 V (Note 1)		DYNAMIC IMPEDANCE	KNEE IMPEDANCE	I _F = 0.8 I _{F(MIN)} (Note 3)		I _F = 1.1 I _{F(MAX)} (Note 4)	V _F = 25 V 0 °C ≤ T _A ≤ 100 °C	
TEST CONDITIONS	mA		MΩ	MΩ	V		V	pF	ppm/°C
UNITS	NOM	MIN	TYP	TYP	MAX	TYP	MIN	TYP	TYP
J553	0.50	0.180	13.0	1.00	1.30	0.7	50	100	-200
J554	1.00	0.600	5.0	0.40	1.75	0.9	50	100	-1300
J555	2.00	1.400	1.8	0.17	2.15	1.4	50	100	-2300
J556	3.00	2.400	1.0	0.09	2.60	1.7	50	100	-2800
J557	4.50	3.600	0.6	0.06	3.00	2.1	50	100	-3100

NOTES: 1. Pulse test - steady state currents may vary.
 2. Pulse test - steady state impedances may vary.
 3. Min V_F required to insure I_F > 0.8 I_{F(MIN)}.
 4. Max V_F where I_F > 1.1 I_{F(MAX)} is guaranteed.