J552

Current Regulator Diode

The J552 is a current regulator designed for applications in test equipment and instrumentation. With forward current between 0.2 and 0.7 mA, the J552 will meet a wide array of design requirements. In addition to its two-lead construction, it features current control over wide temperature ranges and simple "floating" operation as no power supplies are required for biasing. Finally, the low-cost TO-92 package ensures a cost effective design solution.

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

PART	I_F (mA)
J552	0.77

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}	100	V
Forward Current	I_F	20	mA
Reverse Current	I_R	50	
Power Dissipation	P_D	350	mW
Power Derating		3.27	mW/°C
Operating Junction Temperature	T_J	-55 to 135	°C
Storage Temperature	T_{stg}	-55 to 135	
Lead Temperature (1/16" from case for 10 seconds)	T_L	300	

ELECTRICAL CHARACTERISTICS[1]			LIMITS			
				J552		
PARAMETER	SYMBOL	TEST CONDITIONS	TYP[2]	MIN	MAX	UNIT
STATIC						
Forward Current[3]	I_{F1}	V_F = 100 V	400		770	μA
		V_F = 25 V	400	250	700	
		V_F = 1 V	390	200		
Peak Operating Voltage[3, 4]	P_{OV}	I_F = 100 V $I_{F1(MAX)}$	160	100		V
Limiting Voltage[5]	V_L	I_F = 0.9 $I_{F1(MIN)}$	1		1.5	
DYNAMIC						
Small-Signal Dynamic Impedance[3]	Z_{F1}	V_F = 25 V, f = 1 kHz	8	1		MΩ
Anode-Cathode Capacitance	C_F	V_F = 25 V, f = 1 MHz	2			pF

NOTES:
1. T_A = 25 °C unless otherwise noted.
2. For design aid only, not subject to production testing.
3. Pulse test; PW = 300 μs, duty cycle ≤ 3%.
4. Maximum $V_F < 1.1\ I_{F1(MAX)}$ is guaranteed.
5. Maximum V_F required to insure $I_F > 0.9\ I_{F1(MIN)}$.