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**2N6550**

**N-Channel Silicon Junction Field-Effect Transistor**

**Low-Noise, High Gain Amplifier**

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

Reverse Gate Source & Reverse Gate Drain Voltage	- 20 V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	400 mW
Power Derating	2.3 mW/ $^\circ\text{C}$
Junction Temperature (Operating & Storage)	- 65 $^\circ\text{C}$ to +200 $^\circ\text{C}$

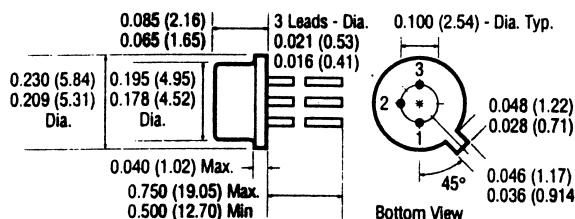
At 25°C free air temperature:

**Static Electrical Characteristics**

		2N6550			Process NJ450L		
		Min	Typ	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	$V_{(\text{BR})\text{GSS}}$	- 20			V	$I_G = 10 \mu\text{A}, V_{DS} = 0\text{V}$	
Gate Leakage Current	$I_{\text{GSS}}$			- 3	nA	$V_{GS} = - 10\text{V}, V_{DS} = 0\text{V}$	
				- 0.1	$\mu\text{A}$	$V_{GS} = - 10\text{V}, V_{DS} = 0\text{V}$	$T_A = 85^\circ\text{C}$
Zero Gate Voltage Drain Current (Pulsed)	$I_{\text{DSS}}$	10	100	250	mA	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$	
Gate Source Cutoff Voltage	$V_{GS(\text{OFF})}$	- 0.3		- 3	V	$V_{DS} = 10\text{V}, I_D = 0.1 \text{ mA}$	

**Dynamic Electrical Characteristics**

Transconductance	$g_{fs}$	25		150	mS	$V_{DS} = 10\text{V}, I_D = 10 \text{ mA}$	$f = 1 \text{ kHz}$
Common Source Output Conductance	$ Y_{os} $			150	$\mu\text{S}$	$V_{DS} = 10\text{V}, I_D = 10 \text{ mA}$	$f = 1 \text{ kHz}$
Common Source Input Capacitance	$C_{iss}$		30	35	pF	$V_{DS} = 10\text{V}, I_D = 10 \text{ mA}$	$f = 140 \text{ kHz}$
Common Source Reverse Transfer Capacitance	$C_{rss}$		10	20	pF	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$	$f = 140 \text{ kHz}$
Equivalent Short Circuit Input Noise Voltage	$e_N$		1:4	2	$\text{nV}/\sqrt{\text{Hz}}$	$V_{DS} = 5\text{V}, I_D = 10 \text{ mA}$	$f = 1 \text{ kHz}$
			6	10	$\text{nV}/\sqrt{\text{Hz}}$	$V_{DS} = 5\text{V}, I_D = 10 \text{ mA}$	$f = 10 \text{ Hz}$
	$e_N$ Total		0.4	0.6	$\mu\text{Vrms}$	$V_{DS} = 5\text{V}, I_D = 10 \text{ mA}$	$f = 10 \text{ kHz}$ to $20 \text{ kHz}$
	$i_N$		0.1		$\text{pA}/\sqrt{\text{Hz}}$	$R_S < 100 \text{ k}\Omega$	$f = 1 \text{ kHz}$



**TO-46 Package**

Dimensions in Inches (mm)

**Pin Configuration**

1 Drain, 2 Source, 3 Gate & Case