N-Channel JFET
General Purpose Amplifier/Switch

calogic CORPORATION

2N5457 – 2N5459

PIN CONFIGURATION

5010

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

Drain-Gate Voltage 25V
Drain-Source Voltage. 25V
Continuous Forward Gate Current 10mA
Storage Temperature Range . . . . . -65°C to +150°C
Operating Temperature Range . . . . . -55°C to +135°C
Lead Temperature (Soldering, 10sec) . . . . . +300°C
Power Dissipation 310mW
Derate above 25°C . . . . . 2.82mW/°C

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ORDERING INFORMATION

Part	Package	Temperature Range
2N5457-59	Plastic TO-92	-55°C to +135°C
X2N5457-59	Sorted Chips in Carriers	-55°C to +135°C

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

SYMBOL	PARAMETER		MIN	MAX	UNITS	TEST CONDITIONS
BV_{GSS}	Gate-Source Breakdown Voltage		-25		V	I_G = -10µA, V_{DS} = 0
I_{GSS}	Gate Reverse Current			-1.0	nA	V_{GS} = -15V, V_{DS} = 0
				-200		V_{GS} = -15V, V_{DS} = 0, T_A = 100°C
$V_{GS(off)}$	Gate-Source Cutoff Voltage	2N5457	-0.5	-6.0	V	V_{DS} = 15V, I_D = 10nA
		2N5458	-1.0	-7.0		
		2N5459	-2.0	-8.0		
V_{GS}	Gate-Source Voltage	2N5457	2.5		V	V_{DS} = 15V, I_D = 100µA, Typical
		2N5458	3.5			V_{DS} = 15V, I_D = 200µA, Typical
		2N5459	4.5			V_{DS} = 15V, I_D = 400µA, Typical
I_{DSS}	Zero-Gate-Voltage Drain Current (Note 1)	2N5457	1.0	5.0	mA	V_{DS} = 15V, V_{GS} = 0
		2N5458	2.0	9.0		
		2N5459	4.0	16		
$\lvert y_{fs} \rvert$	Forward Transfer Admittance	2N5457	1000	5000	µS	V_{DS} = 15V, V_{GS} = 0 , f = 1kHz
		2N5458	1500	5500		
		2N5459	2000	6000		
$\lvert y_{os} \rvert$	Output Admittance			50	µS	V_{DS} = 15V, V_{GS} = 0, f = 1kHz
C_{iss}	Input Capacitance (Note 2)			7.0	pF	V_{DS} = 15V, V_{GS} = 0, f = 1MHz
C_{rss}	Reverse Transfer Capacitance (Note 2)			3.0	pF	V_{DS} = 15V, V_{GS} = 0, f = 1MHz
NF	Noise Figure (Note 2)			3.0	dB	V_{DS} = 15V, V_{GS} = 0, R_G = 1MHz, BW = 1Hz, f = 1kHz

NOTES: **1.** Pulse test required. PW ≤630ms, duty cycle ≤10%.
2. For design reference only, not 100% tested.