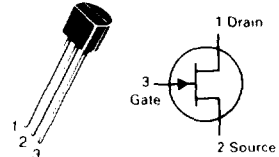


MPF3821 MPF3822

CASE 29-04, STYLE 5
TO-92 (TO-226AA)



JFET GENERAL PURPOSE

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	50	Vdc
Drain-Gate Voltage	V_{DG}	50	Vdc
Gate-Source Voltage	V_{GS}	50	Vdc
Drain Current	I_D	10	mAdc
Total Device Dissipation ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	350 2.8	mW mW/°C
Junction Temperature Range	T_J	125	°C
Storage Temperature Range	T_{stg}	65 to 150	°C

Refer to 2N5457 for graphs.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Gate-Source Breakdown Voltage ($I_G = -1.0 \mu\text{Adc}$, $V_{DS} = 0$)	$V_{(BR)GSS}$	50	—	Vdc
Gate Reverse Current ($V_{GS} = 30 \text{ Vdc}$, $V_{DS} = 0$) ($V_{GS} = 30 \text{ Vdc}$, $V_{DS} = 0$, $T_A = 150^\circ\text{C}$)	I_{GSS}	—	0.1 100	nAdc
Gate Source Cutoff Voltage ($I_D = 0.5 \text{ nAdc}$, $V_{DS} = 15 \text{ Vdc}$)	$V_{GS(off)}$	—	4.0 6.0	Vdc
Gate Source Voltage ($I_D = 50 \mu\text{Adc}$, $V_{DS} = 15 \text{ Vdc}$) ($I_D = 200 \mu\text{Adc}$, $V_{DS} = 15 \text{ Vdc}$)	V_{GS}	0.5 1.0	2.0 4.0	Vdc
ON CHARACTERISTICS				
Zero-Gate-Voltage Drain Current ⁽¹⁾ ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$)	I_{DSS}	0.5 2.0	2.5 10	mAdc
SMALL-SIGNAL CHARACTERISTICS				
Forward Transfer Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$) ⁽¹⁾	Y_{fs}	1500 3000	4500 6500	μmhos
($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 100 \text{ MHz}$)		1500 3000	— —	
Output Admittance ⁽¹⁾ ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	Y_{os}	— —	10 20	μmhos
Input Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{iss}	—	6.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{rss}	—	3.0	pF
FUNCTIONAL CHARACTERISTICS				
Noise Figure ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $R_S = 1.0 \text{ megohm}$, $f = 10 \text{ Hz}$, Noise Bandwidth 5.0 Hz)	NF	—	5.0	dB
Equivalent Input Noise Voltage ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 10 \text{ Hz}$, Noise Bandwidth 5.0 Hz)	e_n	—	200	$\text{nV Hz}^{1/2}$

(1) Pulse Test: Pulse Width $\leq 100 \text{ ms}$, Duty Cycle $\leq 10\%$.