MPF4117,A
MPF4118,A
MPF4119,A

CASE 29-02, STYLE 5
TO-92 (TO-226AA)

JFET
DC AMPLIFIER TRANSISTOR

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	−40	Vdc
Drain-Gate Voltage	V_{DG}	−40	Vdc
Gate Current	I_G	50	mAdc
Total Device Dissipation @ T_A = 25°C Derate above 25°C	P_D	300 2.0	mW mW/°C
Storage Channel Temperature Range	T_{stg}	−65 to +125	°C

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Gate-Source Breakdown Voltage (V_{DS} = 0, I_G = −1.0 μAdc)		$V_{(BR)GSS}$	−40	—	Vdc
Gate Reverse Current		I_{GSS}			
(V_{GS} = 20 Vdc, V_{DS} = 0)	MPF4117, 4118, 4119		—	−10	pAdc
	MPF4117A, 4118A, 4119A		—	−1.0	
(V_{GS} = 20 Vdc, V_{DS} = 0, T_A = 125°C)	MPF4117, 4118, 4119		—	−25	nAdc
	MPF4117A, 4118A, 4119A		—	−2.5	
Gate Source Cutoff Voltage		$V_{GS(off)}$			Vdc
(V_{DS} = 10 Vdc, I_D = 1.0 nAdc)	MPF4117,A		−0.6	−1.8	
	MPF4118,A		−1.0	−3.0	
	MPF4119,A		−2.0	−6.0	
ON CHARACTERISTICS					
Zero-Gate-Voltage Drain Current(1)		I_{DSS}			mAdc
(V_{DS} = 10 Vdc, V_{GS} = 0)	MPF4117,A		0.03	0.09	
	MPF4118,A		0.08	0.24	
	MPF4119,A		0.20	0.60	
SMALL-SIGNAL CHARACTERISTICS					
Input Capacitance (V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 MHz)		C_{iss}	—	3.0	pF
Reverse Transfer Capacitance (V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 MHz)		C_{rss}	—	1.5	pF
Common-Source Forward Transconductance		g_{fs}			μmhos
(V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 kHz)	MPF4117,A		70	210	
	MPF4118,A		80	250	
	MPF4119,A		100	330	
Common-Source Output Conductance		g_{os}			μmhos
(V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 kHz)	MPF4117,A		—	3.0	
	MPF4118,A		—	5.0	
	MPF4119,A		—	10	

(1) I_{DSS} is measured during a 2.0 ms interval 100 ms after power is applied.

FIGURE 1 — TRANSFER CHARACTERISTICS

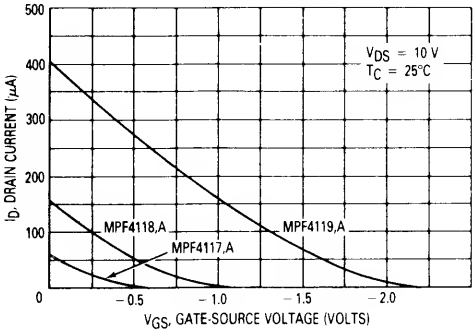

FIGURE 2 — TRANSCONDUCTANCE CHARACTERISTICS

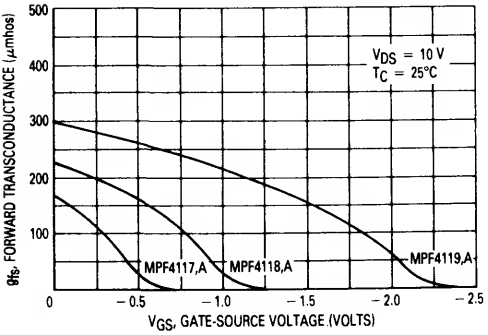

FIGURE 3 — CAPACITANCE versus DRAIN-SOURCE VOLTAGE