2N4117,A
2N4118,A
2N4119,A

CASE 20-03, STYLE 1
TO-72 (TO-206AF)

JFET
AMPLIFIER

N-CHANNEL — DEPLETION

Refer to MPF4117 for graphs.

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
Lead Temperature (1/16" from case for 10 s)	T_L	255	°C
Storage Temperature Range	T_{stg}	−65 to +175	°C

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Gate-Source Breakdown Voltage (I_G = −1.0 μAdc, V_{DS} = 0)		$V_{(BR)GSS}$	−40	—	Vdc
Gate Reverse Current		I_{GSS}			
(V_{GS} = 20 Vdc, V_{DS} = 0)	2N4117,4118,4119		—	−10	pAdc
	2N4117A,4118A,4119A		—	−1.0	
(V_{GS} = 20 Vdc, V_{DS} = 0, T_A = 150°C)	2N4117,4118,4119		—	−25	nAdc
	2N4117A,4118A,4119A		—	−2.5	
Gate Source Cutoff Voltage		$V_{GS(off)}$			Vdc
(I_D = 1.0 nAdc, V_{DS} = 10 Vdc)	2N4117,A		−0.6	−1.8	
	2N4118,A		−1.0	−3.0	
	2N4119,A		−2.0	−6.0	
ON CHARACTERISTICS					
Zero-Gate-Voltage Drain Current(1)		I_{DSS}			mAdc
(V_{DS} = 10 Vdc, V_{GS} = 0)	2N4117,A		0.03	0.09	
	2N4118,A		0.08	0.24	
	2N4119,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
Forward Transconductance		g_{fs}			μmhos
(V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 kHz)	2N4117,A		70	210	
	2N4118,A		80	250	
	2N4119,A		100	330	
Output Conductance		g_{os}			μmhos
(V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 kHz)	2N4117,A		—	3.0	
	2N4118,A		—	5.0	
	2N4119,A		—	10	

(1) I_{DSS} is measured during a 2.0-ms interval 100 ms after power is applied. (NOT a JEDEC condition.)