

FEATURES

- LOW LEAKAGE: 0.25 pA TYPICAL
- LOW INPUT CAPACITANCE: 2.0 pF TYPICAL
- HIGH INPUT IMPEDANCE

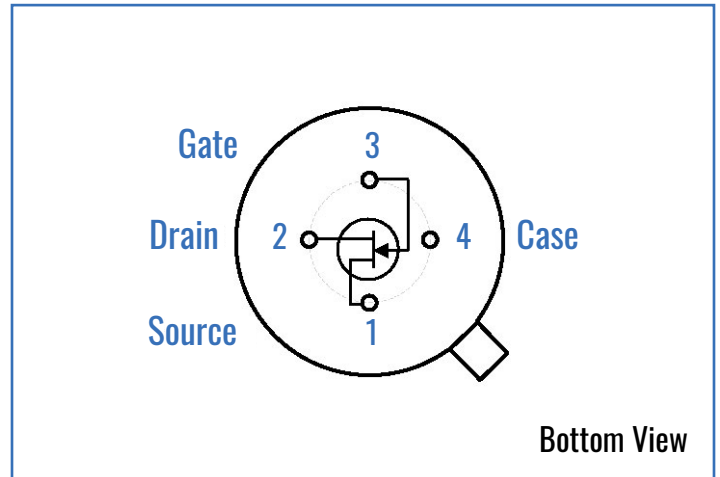
DESCRIPTION

The -50V 2N4117/A, 2N4118/A, and 2N4119/A JFET's are targeted for ultra high input impedance applications for mid to high frequency designs. Gate leakages are typically 1pA at room temperatures.

The 2N4117 has a cutoff voltage of less than 1.8V ideal for low-level power supplies.

The TO-72 package is hermetically sealed and suitable for military applications.

TX, TXV, and S-Level Screening Available - Consult Factory.

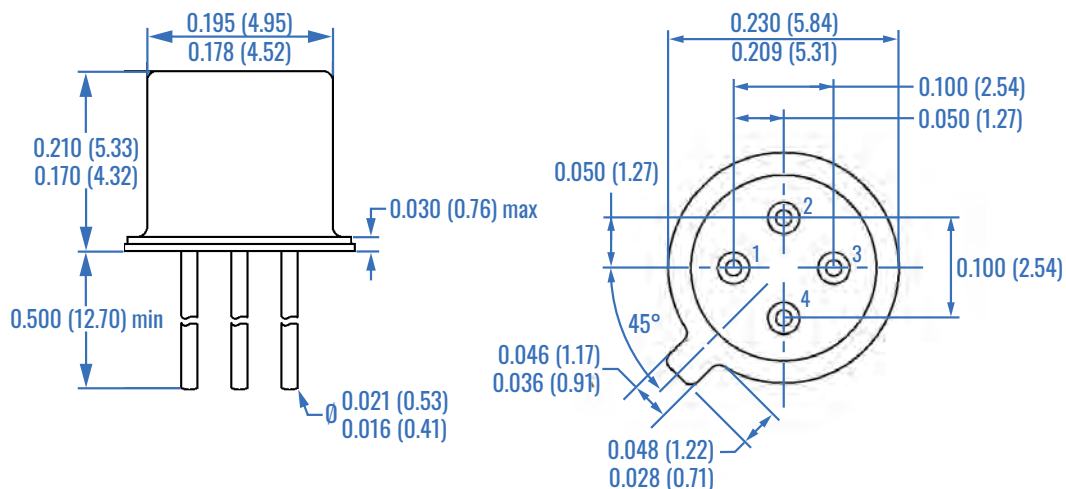


ORDERING GUIDE

Part Number	2N4117, 2N4117A, 2N4118, 2N4118A, 2N4119, 2N4119AA
Description	-50V N-Channel JFET

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Reverse Gate Source and Gate Drain Voltage	V_{RGS}	-40	V
Continuous Forward Gate Current	I_{FG}	50	mA
Continuous Device Power Dissipation	P_D	300	mW
Power Derating	P	2	mW/°C
Operating Junction Temperature	T_J	-55 to 125	°C
Storage Temperature	T_{STG}	-65 to 150	°C



STATIC CHARACTERISTICS

Typical @ 25°C unless otherwise noted, highlighted values = A version.

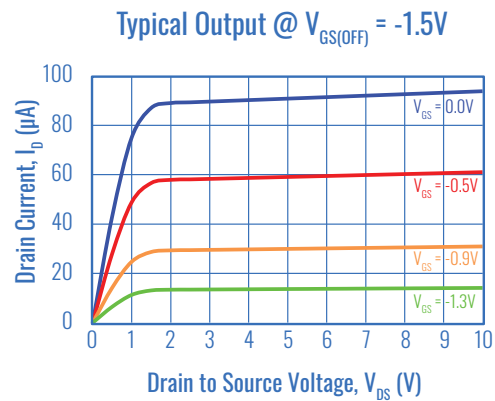
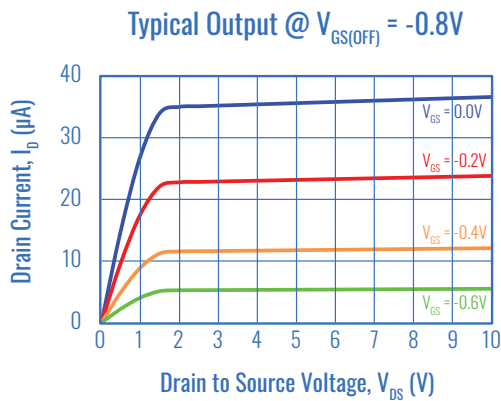
Parameter	Symbol	2N4117/A		2N4118/A		2N4119/A		Unit	
		Min.	Max.	Min.	Max.	Min.	Max.		
Gate to Source Breakdown Voltage	$V_{DS} = 0V, I_G = -1\mu A$	$V_{(BR)GSS}$	-40		-40		-40		V
Gate to Source Reverse Current	$V_{GS} = -20V, V_{DS} = 0V$	I_{GSS}		-10		-10		-10	pA
				-1		-1		-1	pA
Gate to Source Cutoff Voltage	$V_{DS} = 10V, I_D = 1nA$	$V_{GS(OFF)}$	-0.6	-1.8	-1	-3	-2	-6	V
Drain to Source Saturation Current	$V_{GS} = 0V, V_{DS} = 10V$ (Pulsed)	I_{DSS}	0.03	0.09	0.08	0.24	0.2	0.6	pA
			0.015	0.09	0.08	0.24	0.2	0.6	pA

DYNAMIC CHARACTERISTICS

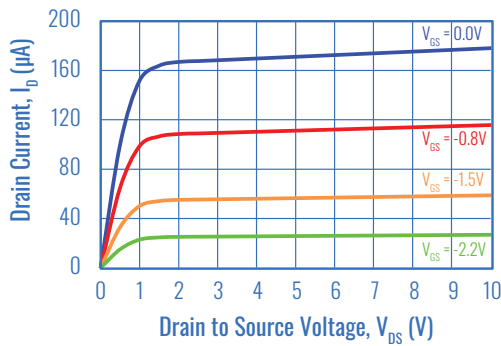
Typical @ 25°C unless otherwise noted

Parameter	Symbol	2N4117/A		2N4118/A		2N4119/A		Unit	
		Min.	Max.	Min.	Max.	Min.	Max.		
Forward Transconductance	$V_{DS} = 10V, V_{GS} = 0V,$ $f = 1kHz$	G_{FS}	70	210	80	250	100	330	μS
Output Conductance		G_{OS}		3		5		10	μS
Input Capacitance	$V_{DS} = 10V, V_{GS} = 0V,$ $f = 1MHz$	C_{iss}		3		3		3	pF
Reverse Transfer Capacitance		C_{rss}		1.5		1.5		1.5	pF

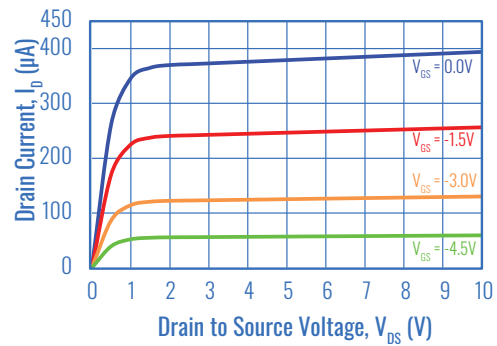
TYPICAL PERFORMANCE CHARACTERISTICS



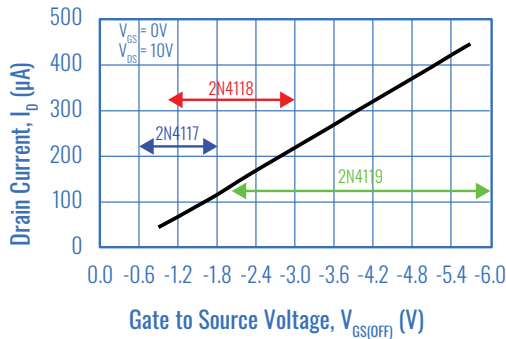
Typical Output @ $V_{GS(OFF)} = -2.5V$



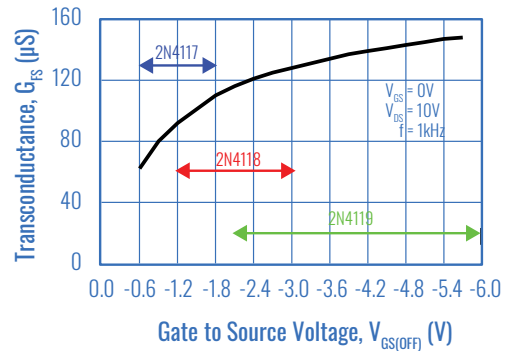
Typical Output @ $V_{GS(OFF)} = -5.0V$



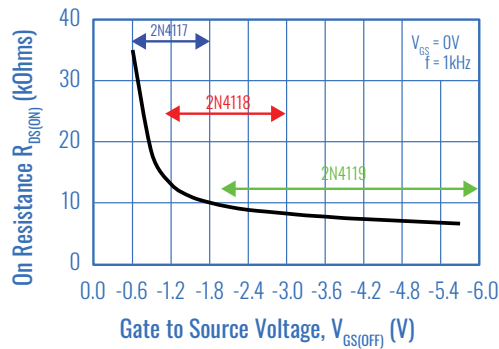
Typical I_{DSS} vs. $V_{GS(OFF)}$



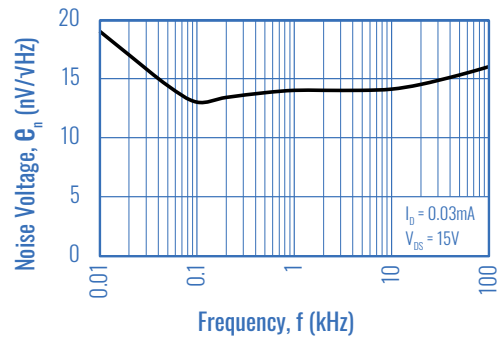
Typical G_{FS} vs. $V_{GS(OFF)}$



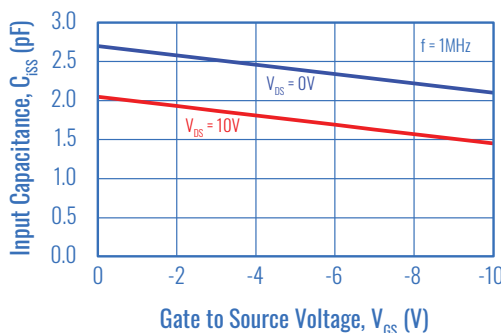
Typical $R_{DS(ON)}$ vs. $V_{GS(OFF)}$



Typical Noise (nV/√Hz)



Typical C_{iss} vs. V_{GS}



Typical C_{rss} vs. V_{GS}

