

## N-CHANNEL J-FET

Qualified per MIL-PRF-19500/428

### Devices

2N4416A

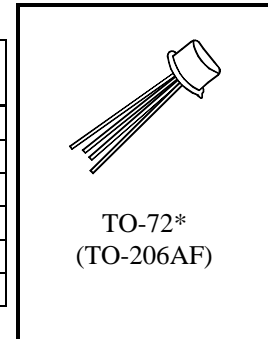
### Qualified Level

JAN  
JANTX  
JANTXV

### ABSOLUTE MAXIMUM RATINGS

Parameters / Test Conditions	Symbol	2N4416A	Unit
Gate-Source Voltage	$V_{GS}$	-35	Vdc
Drain-Source Voltage	$V_{DS}$	35	Vdc
Drain-Gate Voltage	$V_{DG}$	35	Vdc
Gate Current	$I_G$	10	mAdc
Power Dissipation $T_A = +25^{\circ}\text{C}$ <sup>(1)</sup>	$P_T$	300	mWdc
Operating Junction & Storage Temperature Range	$T_{op}, T_{stg}$	-65 to +200	$^{\circ}\text{C}$

(1) Derate linearly 1.7 mW/ $^{\circ}\text{C}$  for  $T_A > +25^{\circ}\text{C}$ .



\*See appendix A for package outline

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

Parameters / Test Conditions	Symbol	Min.	Max.	Units
Gate-Source Breakdown Voltage $V_{DS} = 0, I_G = 1.0 \mu\text{Adc}$	$V_{(BR)GSS}$	-35		Vdc
Gate Reverse Current $V_{DS} = 0, V_{GS} = 20 \text{ Vdc}$	$I_{GSS}$		-0.1	$\eta\text{Adc}$
Drain Current $V_{DS} = 15 \text{ Vdc}$	$I_{DSS}$	5	15	mAdc
Gate-Source Voltage $V_{DS} = 15 \text{ Vdc}, I_D = 0.5 \text{ mAdc}$	$V_{GS}$	-1	-5.5	Vdc
Gate-Source Cutoff Voltage $V_{DS} = 15 \text{ Vdc}, I_D = 1.0 \eta\text{Adc}$	$V_{GS(off)}$	-2.5	-6.0	Vdc
Gate-Source Forward Voltage $V_{DS} = 0 \text{ Vdc}, I_G = 1.0 \text{ mAdc}$	$V_{GSF}$		1	Vdc

**2N4416A JAN SERIES**

**ELECTRICAL CHARACTERISTICS ( $T_A = +25^{\circ}\text{C}$  unless otherwise noted) (con't)**

<b>Parameters / Test Conditions</b>	<b>Symbol</b>	<b>Min.</b>	<b>Max.</b>	<b>Units</b>
Magnitude of Small-Signal Common Source, Short-Circuit Forward Transfer Admittance <sup>(2)</sup> $V_{GS} = 0, V_{DS} = 15 \text{ Vdc}, f = 1.0 \text{ kHz}$	$ y_{fs} ^2$	4.5	7.5	ms
Small-Signal, Common-Source Short-Circuit Input Capacitance $V_{GS} = 0, V_{DS} = 15 \text{ Vdc}, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	$C_{iss}$		4.0	pF
Small-Signal, Common-Source Short-Circuit Reverse Transfer Capacitance $V_{DS} = 15 \text{ Vdc}, V_{GS} = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	$C_{rss}$		0.8	pF
Small-Signal, Common-Source Short-Circuit Output Capacitance $V_{DS} = 15 \text{ Vdc}, V_{GS} = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$	$C_{oss}$		2.0	pF

(2) Pulse Width = 100ms; Duty Cycle = 10%