

## N-CHANNEL J-FET Equivalent To MIL-PRF-19500/428

### DEVICES

# 2N4416A

### LEVELS

**MQ = JAN Equivalent**  
**MX = JANTX Equivalent**  
**MV = JANTXV Equivalent**

### ABSOLUTE MAXIMUM RATINGS ( $T_C = +25^\circ\text{C}$ unless otherwise noted)

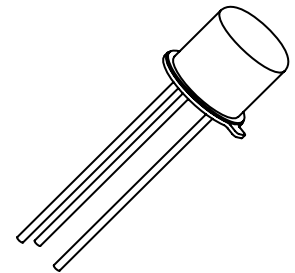
Parameters / Test Conditions	Symbol	Value	Unit
Gate-Source Voltage	$V_{GS}$	-35	Vdc
Drain-Source Voltage	$V_{DS}$	35	Vdc
Drain-Gate Voltage	$V_{DG}$	35	Vdc
Gate Current	$I_G$	10	mAdc
Power Dissipation $T_A = +25^\circ\text{C}^{(1)}$	$P_T$	300	mWdc
Operating Junction & Storage Temperature Range	$T_j,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

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

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

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Gate-Source Breakdown Voltage $V_{DS} = 0, I_G = 1.0\mu\text{A dc}$	$V_{(BR)GSS}$	-35		Vdc
Gate Reverse Current $V_{DS} = 0, V_{GS} = 20\text{V dc}$	$I_{GSS}$		-0.1	$\eta\text{Adc}$
Drain Current $V_{DS} = 15\text{V dc}$	$I_{DSS}$	5	15	mAdc
Gate-Source Voltage $V_{DS} = 15\text{V}, I_D = 0.5\text{mA dc}$	$V_{GS}$	-1	-5.5	Vdc
Gate-Source Cutoff Voltage $V_{DS} = 15\text{V}, I_D = 1.0\eta\text{A dc}$	$V_{GS(off)}$	-2.5	-6.0	Vdc
Gate-Source Forward Voltage $V_{DS} = 0\text{V}, I_G = 1.0\text{mA dc}$	$V_{GSF}$		1	Vdc
Magnitude of Small-Signal, Common-Source Short-Circuit Forward Transfer Admittance <sup>(2)</sup> $V_{GS} = 0, V_{DS} = 15\text{V dc}, f = 1.0\text{kHz}$	$ y_{fs} ^{(2)}$	4.5	7.5	ms
Small-Signal, Common-Source Short-Circuit Input Capacitance $V_{GS} = 0, V_{DS} = 15\text{V dc}, 100\text{kHz} \leq f \leq 1.0\text{MHz}$	$C_{iss}$		4.0	pF
Small-Signal, Common-Source Short-Circuit Reverse Transfer Capacitance $V_{DS} = 15\text{V dc}, V_{GS} = 0, 100\text{kHz} \leq f \leq 1.0\text{MHz}$	$C_{rss}$		0.8	pF
Small-Signal, Common-Source Short-Circuit Output Capacitance $V_{DS} = 15\text{V dc}, V_{GS} = 0, 100\text{kHz} \leq f \leq 1.0\text{MHz}$	$C_{oss}$		2.0	pF

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



**TO-72  
 (TO-206AF)**