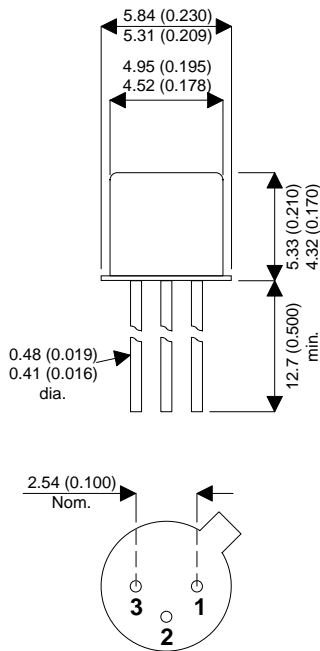


MECHANICAL DATA

Dimensions in mm (inches)



TO-18 METAL PACKAGE

Underside View

PIN 1 – Source PIN 2 – Drain PIN 3 – Gate
 (Gate is connected to case)

**JFET SWITCHING
 N CHANNEL- DEPLETION**

FEATURES

- LOW ON RESISTANCE
- FAST SWITCHING
- MILITARY OPTIONS AVAILABLE

APPLICATIONS:

- SWITCHING APPLICATIONS

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{DS}	Drain–Source Voltage	40V
V_{DG}	Drain–Gate Voltage	40V
V_{GS}	Gate–Source Voltage	40V
I_{GF}	Forward Gate Current	50mA
P_D	Total Device Dissipation @ $T_C = 25^{\circ}C$	1.8W
	Derate above $25^{\circ}C$	10mW/ $^{\circ}C$
T_J	Operating Junction Temperature Range	-65 to +175 $^{\circ}C$
T_{STG}	Storage Temperature Range	-65 to +175 $^{\circ}C$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS					
$V_{(BR)GSS}$	Gate Source Breakdown Voltage ¹	$I_G = 1.0\mu\text{A}$ $V_{DS} = 0$	40		V
I_{GSS}	Gate Reverse Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$		0.1	nA
		$V_{GS} = 20\text{V}$ $V_{DS} = 0$ $T_A = 150^\circ\text{C}$		0.2	μA
V_{GS}	Gate Source Voltage	$V_{DS} = 20\text{V}$ $I_D = 1.0\text{nA}$	4.0	10	V
$V_{GS(f)}$	Gate Source Forward Voltage	$I_G = 1.0\text{mA}$ $V_{DS} = 0$		1.0	V
$I_{D(off)}$	Drain Cut-off Current	$V_{GS} = 12\text{V}$ $V_{DS} = 20\text{V}$		0.1	nA
		$V_{GS} = 12\text{V}$ $V_{DS} = 20\text{V}$ $T_A = 150^\circ\text{C}$		0.2	μA
ON CHARACTERISTICS					
I_{DSS}	Zero Gate voltage Drain Current ¹	$V_{GS} = 0\text{V}$ $V_{DS} = 20\text{V}$	50	150	mA
$V_{DS(on)}$	Drain Source On-Voltage	$I_D = 12\text{mA}$ $V_{GS} = 0$		0.4	V
$r_{DS(on)}$	Static Drain Source On Resistance	$I_D = 1.0\text{mA}$ $V_{GS} = 0$		30	Ω
ELECTRICAL CHARACTERISTICS					
C_{iss}	Input Capacitance	$V_{GS} = 0\text{V}$ $V_{DS} = 20\text{V}$ $f = 1.0\text{MHz}$		14	pF
C_{rss}	Reverse Transfer Capacitance	$V_{GS} = 12\text{V}$ $V_{DS} = 0\text{V}$ $f = 1.0\text{MHz}$		3.5	
SMALL SIGNAL CHARACTERISTICS					
$r_{ds(on)}$	Drain-Source "ON" Resistance	$V_{GS} = 0\text{V}$ $I_D = 0$ $f = 1.0\text{kHz}$		30	Ω
SWITCHING CHARACTERISTICS					
t_{on}	Turn-On Time	$I_{D(on)} = 12\text{mA}$		15	ns
t_{off}	Turn-Off Time	$V_{GS(on)} = 12\text{V}$		20	
t_r	RiseTime	$I_{D(on)} = 12\text{mA}$		5.0	
t_f	FallTime	$V_{GS(off)} = 12\text{V}$		15	

- 1) Pulse test : Pulse Width < 300 μs ,Duty Cycle < 2%
- 2) f_t is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.