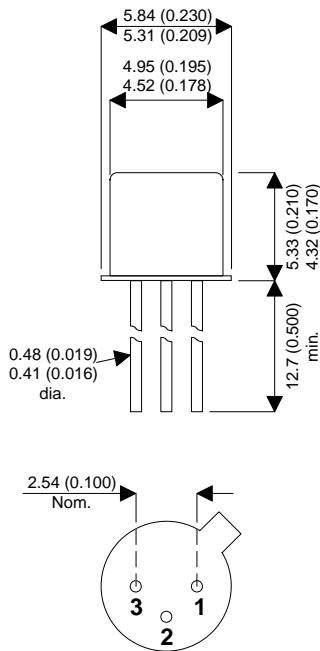


**MECHANICAL DATA**

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
<b>OFF CHARACTERISTICS</b>					
$V_{(BR)GSS}$	Gate Source Breakdown Voltage <sup>1</sup>	$I_G = 1.0\mu\text{A}$ $V_{DS} = 0$	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	$\mu\text{A}$
$V_{GS}$	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	$\mu\text{A}$
<b>ON CHARACTERISTICS</b>					
$I_{DSS}$	Zero Gate voltage Drain Current <sup>1</sup>	$V_{GS} = 0\text{V}$ $V_{DS} = 20\text{V}$	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	$\Omega$
<b>ELECTRICAL CHARACTERISTICS</b>					
$C_{iss}$	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	
<b>SMALL SIGNAL CHARACTERISTICS</b>					
$r_{ds(on)}$	Drain-Source "ON" Resistance	$V_{GS} = 0\text{V}$ $I_D = 0$ $f = 1.0\text{kHz}$		30	$\Omega$
<b>SWITCHING CHARACTERISTICS</b>					
$t_{on}$	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 $\mu\text{s}$  ,Duty Cycle < 2%
- 2)  $f_t$  is defined as the frequency at which  $|h_{fe}|$  extrapolates to unity.