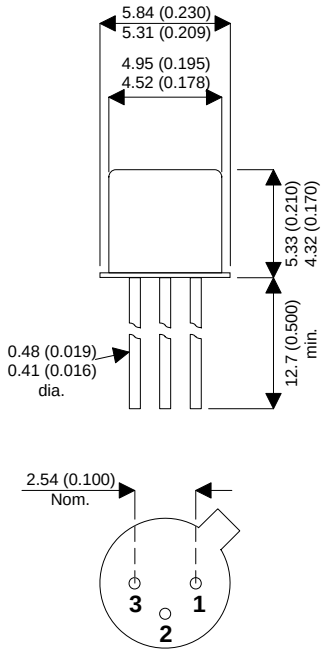
2N4392

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°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°C	1.8W
	Derate above 25°C	10mW/ °C
T_J	Operating Junction Temperature Range	–65 to +175°C
T_{STG}	Storage Temperature Range	–65 to +175°C

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SEME LAB

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	OFF CHARACTERISTICS						
$V_{(BR)GSS}$	Gate Source Breakdown Voltage[1]	I_G = 1.0µA	V_{DS} = 0	40			V
I_{GSS}	Gate Reverse Current	V_{GS} = 20V	V_{DS} = 0			0.1	nA
		V_{GS} = 20V	V_{DS} = 0, T_A = 150°C			0.2	µA
V_{GS}	Gate Source Voltage	V_{DS} = 20V	I_D = 1.0nA	-0.2		-5	V
$V_{GS(f)}$	Gate Source Forward Voltage	I_G = 1.0mA	V_{DS} = 0			1.0	V
$I_{D(off)}$	Drain Cut-off Current	V_{GS} = 7V	V_{DS} = 20V			0.1	nA
		V_{GS} = 7V	V_{DS} = 20V, T_A = 150°C			0.2	µA
	ON CHARACTERISTICS						
I_{DSS}	Zero Gate voltage Drain Current[1]	V_{GS} = 0V	V_{DS} = 20V	25		75	mA
$V_{DS(on)}$	Drain Source On–Voltage	I_D = 6mA	V_{GS} = 0			0.4	V
$r_{DS(on)}$	Static Drain Source On Resistance	I_D = 1.0mA	V_{GS} = 0			60	Ω
	ELECTRICAL CHARACTERISTICS						
C_{iss}	Input Capacitance	V_{GS} = 0V	V_{DS} = 20V, f = 1.0MHz			14	pF
C_{rss}	Reverse Transfer Capacitance	V_{GS} = 7V	V_{DS} = 0V, f = 1.0MHz			3.5	
	SMALL SIGNAL CHARACTERISTICS						
$r_{ds(on)}$	Drain–Source “ON” Resistance	V_{GS} = 0V	I_D = 0, f = 1.0kHz			60	Ω
	SWITCHING CHARACTERISTICS						
t_{on}	Turn–On Time	$I_{D(on)}$ = 6mA				15	ns
t_{off}	Turn–Off Time	$V_{GS(on)}$ = 7V				35	
t_r	RiseTime	$I_{D(on)}$ = 6mA				5.0	
t_f	FallTime	$V_{GS(off)}$ = 7V				20	

1) Pulse test : Pulse Width < 100µs ,Duty Cycle < 2%

2) f_t is defined as the frequency at which $|h_{fe}|$ extrapolates to untity.

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