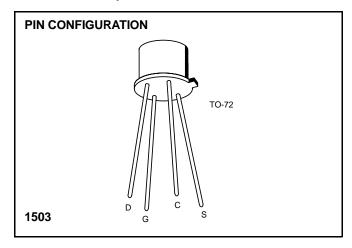


# P-Channel Enhancement Mode MOSFET Amplifier/Switch

2N4352

#### **FEATURES**

- Low ON Resistance
- Low Capacitance
- High Gain
- P-Channel Complement to 2N4341



## **ABSOLUTE MAXIMUM RATINGS**

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

Drain-Source Voltage
Drain-Gate Voltage 30V
Gate-Source Voltage ±30V
Drain Current
Storage Temperature Range65°C to +200°C
Operating Temperature Range55°C to +150°C
Lead Temperature (Soldering, 10sec) +300°C
Power Dissipation
Derate above 25°C

**NOTE:** Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

### **ORDERING INFORMATION**

Part	Package	Temperature Range
2N4352	Hermetic TO-72	-55°C to +150°C
X2N4352	Sorted Chips in Carriers	-55°C to +150°C

# **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C unless otherwise specified)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
V <sub>(BR)DSX</sub>	Drain-Source Breakdown Voltage	-25		Vdc	$I_D = -10\mu A, V_{GS} = 0$
I <sub>DSS</sub>	Zero-Gate-Voltage Drain Current		-10 -10	nAdc μAdc	V <sub>DS</sub> = -10V, V <sub>GS</sub> = 0, T <sub>A</sub> = 25°C V <sub>DS</sub> = -10V, V <sub>GS</sub> = 0, T <sub>A</sub> = 150°C
IGSS	Gate Reverse Current		±10	pA	$V_{GS} = \pm 30V, V_{DS} = 0$
V <sub>GS(th)</sub>	Gate Threshold Voltage	-1.0	-5.0	Vdc	$V_{DS} = -10V$ , $I_{D} = -10\mu A$
V <sub>DS(on)</sub>	Drain-Source On-Voltage		-1.0	V	I <sub>D</sub> = -2mA, V <sub>GS</sub> = -10V
I <sub>D(on)</sub>	On-State Drain Current	-3.0		mA	V <sub>GS</sub> = -10V, V <sub>DS</sub> = -10V
r <sub>DS(on)</sub>	Drain-Source Resistance		600	ohms	V <sub>GS</sub> = -10V, I <sub>D</sub> = 0, f = 1.0kHz
yfs	Forward Transfer Admittance	1000		μmho	V <sub>DS</sub> = -10V, I <sub>D</sub> = 2.0mA, f = 1.0kHz
C <sub>iss</sub>	Input Capacitance		5.0		V <sub>DS</sub> = -10V, V <sub>GS</sub> = 0, f = 140MHz
C <sub>rss</sub>	Reverse Transfer Capacitance		1.3	pF	V <sub>DS</sub> = 0, V <sub>GS</sub> = 0, f = 140MHz
C <sub>d(sub)</sub>	Drain-Substrate Capacitance		5.0		V <sub>D(sub)</sub> = -10V, f = 140kHz
t <sub>d1</sub>	Turn-On Delay		45		
t <sub>r</sub>	Rise Time		65	ns	$I_D = -2.0$ mAdc, $V_{DS} = -10$ Vdc $V_{GS} = -10$ V
t <sub>d2</sub>	Turn-Off Delay		60	- 113	
t <sub>f</sub>	Fall Time		100		