

# enhancement-type p-channel MOSFET designed for . . .



- Analog Switches
- Digital Switching

## Performance Curves MB See Section 4

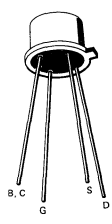
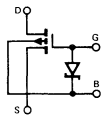
### BENEFITS

- High Off-Isolation  
 $I_{D(off)} < 200 \text{ pA}$   
 $I_{S(off)} < 200 \text{ pA}$
- Low Insertion Loss  
 $r_{DS(on)} < 100 \text{ } \Omega$
- Rugged  
 Zener Diode Input Protection

### ABSOLUTE MAXIMUM RATINGS (25°C)

Drain-to-Source Voltage	-30 V
Gate-to-Source Voltage	-30 V
Gate-to-Drain Voltage	-30 V
Drain Current	-50 mA
Gate Current (Forward Direction for Zener Clamp)	+0.1 mA
Storage Temperature	-65 to +150°C
Operating Junction Temperature	-55 to +125°C
Total Device Dissipation (Derate 2.25 mW/°C to 125°C)	225 mW

TO-72  
See Section 5



### ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

Characteristic		Min	Max	Unit	Test Conditions	
S T A T I C	1 $I_{GSS}$ Gate-Reverse Current		-100	pA	$V_{GS} = -20 \text{ V}, V_{DS} = V_{BS} = 0$	
	2 $BV_{GBS}$ Gate-Body Breakdown Voltage	-30	-90	V	$I_G = -10 \text{ } \mu\text{A}, V_{SB} = V_{DB} = 0$	
	3 $BV_{SDS}$ Source-Drain Breakdown Voltage	-30			$I_S = -1 \text{ } \mu\text{A}, V_{DG} = V_{BD} = 0$	
	4 $BV_{DSS}$ Drain-Source Breakdown Voltage	-30			$I_D = -1 \text{ } \mu\text{A}, V_{GS} = V_{BS} = 0$	
	5 $V_{GS(th)}$ Gate Threshold Voltage	-2.5	-5.5		$V_{GS} = V_{DS}, I_D = -10 \text{ } \mu\text{A}, V_{BS} = 0$	
	6 $I_{S(off)}$ Source Cutoff Current		-200	pA	$V_{SD} = -20 \text{ V}, V_{GD} = V_{BD} = 0$	
	7 $I_{D(off)}$ Drain Cutoff Current		-200	pA	$V_{DS} = -20 \text{ V}, V_{GS} = V_{BS} = 0$	
8 9	$r_{DS(on)}$ Drain Source ON Resistance		130	$\Omega$	$V_{GS} = -15 \text{ V}, I_D = -100 \text{ } \mu\text{A}, V_{BS} = 0$	
			100		$V_{GS} = -20 \text{ V}, I_D = -100 \text{ } \mu\text{A}, V_{BS} = 0$	
D Y N A M I C	10 $C_{gs}$ Gate-Source Capacitance		4	pF	$V_{GB} = V_{DB} = V_{SB} = 0$ Body Guarded	
	11 $C_{gd}$ Gate-Drain Capacitance		4		$f = 1 \text{ MHz}$	
	12 $C_{sb}$ Source-Body Capacitance		5			$V_{GB} = 0, V_{DB} = V_{SB} = -5 \text{ V}$
	13 $C_{db}$ Drain-Body Capacitance		4			$V_{GB} = 0, V_{DB} = V_{SB} = -5 \text{ V}$ Body Guarded
	14 $C_{ds}$ Drain-Source Capacitance		0.5			

MB