M104

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

- **Analog Switches**
- **Digital Switching**

Performance Curves MT
See Section 4

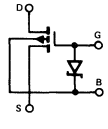
BENEFITS

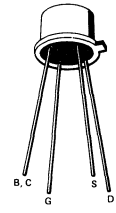
- High Off-Isolation
  $I_{D(off)} < 100$ pA
  $I_{S(off)} < 100$ pA
- Very High Input Impedance
  $C_{gs} < 0.5$ pF
  $I_{GSS} < 100$ pA
- Rugged
  Zener Protected Input

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
Operating Junction Temperature . . . . . −55 to +125°C
Total Device Dissipation
(Derate 2.25 mW/°C to 125°C) . . . . . 225 mW
Storage Temperature . . . . . −65 to +150°C
Lead Temperature
(1/16" from case for 10 seconds) . . . . . .260°C

TO-72
See Section 5





ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		Min	Typ	Max	Unit	Unit Conditions	
1	STATIC	BV_{DSS}	Drain-Source Breakdown Voltage	-30			V	I_D = -1 μA, V_{GS} = V_{BS} = 0	
2		BV_{SDS}	Source-Drain Breakdown Voltage	-30				I_S = -1 μA, V_{GD} = V_{BD} = 0	
3		BV_{GBS}	Gate-Body Breakdown Voltage	-30		-90		I_G = -10 μA, V_{SB} = V_{BD} = 0	
4		I_{GSS}	Gate-Body Leakage			−100	pA	V_{GS} = -20 V, V_{DS} = V_{BS} = 0	
5		$I_{D(off)}$	Drain Cutoff Current			−100		V_{DS} = -20 V, V_{GS} = V_{BS} = 0	
6		$I_{S(off)}$	Source Cutoff Current			−100		V_{SD} = -20 V, V_{GD} = V_{BD} = 0	
7		$V_{GS(th)}$	Gate Threshold Voltage	-3		-6	V	V_{GS} = V_{DS}, I_D = -10 μA, V_{BS} = 0	
8		$r_{DS(on)}$	Drain Source ON Resistance			1,200	Ω	V_{GS} = -20 V, I_D = -100 μA, V_{BS} = 0	
9						2,500		V_{GS} = -10 V, I_D = -10 μA, V_{BS} = 0	
10	DYN	C_{gs}	Gate-Source Capacitance			0.5	pF	V_{GB} = V_{DB} = V_{SB} = 0 Body Guarded	f = 1 MHz
11		C_{gd}	Gate-Drain Capacitance			0.5			
12		C_{sb}	Source-Body Capacitance			1.7		V_{GB} = 0, V_{SB} = -5 V	
13		C_{db}	Drain-Body Capacitance			1.7			
14		C_{ds}	Drain-Source Capacitance		0.1			V_{GB} = 0, V_{DB} = V_{SB} = -5 V Body Guarded	

MT