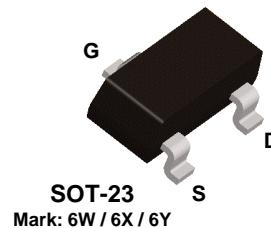
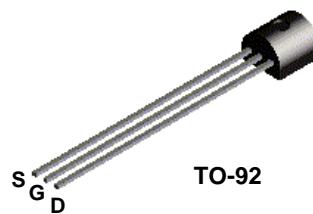




**J174
J175
J176
J177**

**MMBFJ175
MMBFJ176
MMBFJ177**



P-Channel Switch

This device is designed for low level analog switching sample and hold circuits and chopper stabilized amplifiers. Sourced from Process 88.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{DG}	Drain-Gate Voltage	- 30	V
V _{GS}	Gate-Source Voltage	30	V
I _{GF}	Forward Gate Current	50	mA
T _J , T _{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max		Units
		J174 - J177	*MMBFJ175	
P _D	Total Device Dissipation Derate above 25°C	350 2.8	225 1.8	mW mW/°C
R _{θJC}	Thermal Resistance, Junction to Case	125		°C/W
R _{θJA}	Thermal Resistance, Junction to Ambient	357	556	°C/W

*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."

P-Channel Switch (continued)

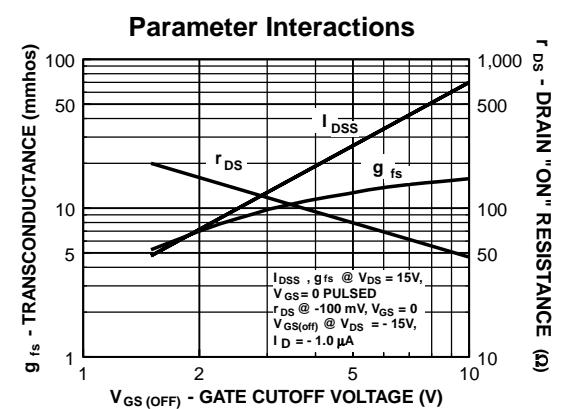
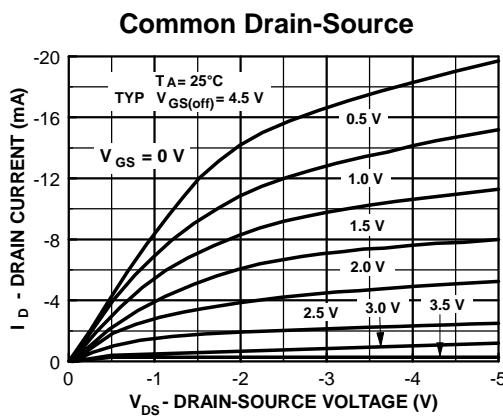
Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$B_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = 1.0 \mu A, V_{DS} = 0$	30		V
I_{GSS}	Gate Reverse Current	$V_{GS} = 20 V, V_{DS} = 0$		1.0	nA
$V_{GS(\text{off})}$	Gate-Source Cutoff Voltage	$V_{DS} = -15 V, I_D = -10 nA$	J174 J175 J176 J177	5.0 3.0 1.0 0.8	V
				10 6.0 4.0 2.5	V
ON CHARACTERISTICS					
I_{DSS}	Zero-Gate Voltage Drain Current*	$V_{DS} = -15 V, I_{GS} = 0$	J174 J175 J176 J177	-20 -7.0 -2.0 -1.5	mA
				-100 -60 -25 -20	mA
$r_{DS(\text{on})}$	Drain-Source On Resistance	$V_{DS} \leq 0.1 V, V_{GS} = 0$	J174 J175 J176 J177	85 125 250 300	Ω
				125 250 300	Ω

*Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle $\leq 2.0\%$

Typical Characteristics

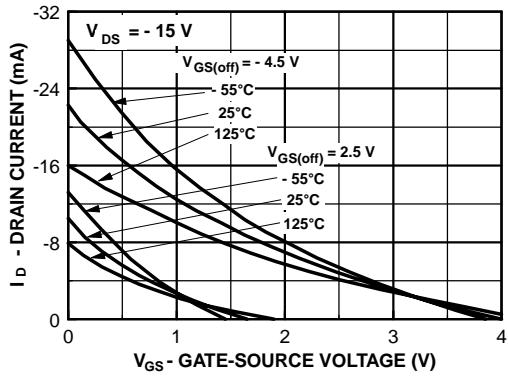


P-Channel Switch

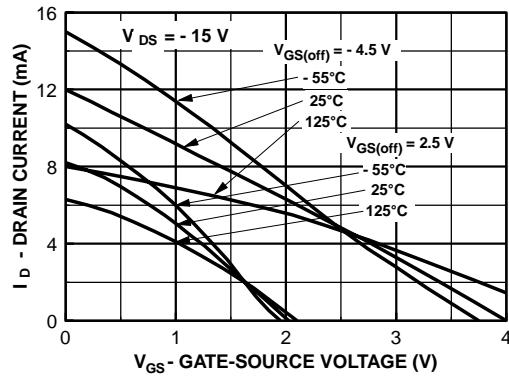
(continued)

Typical Characteristics (continued)

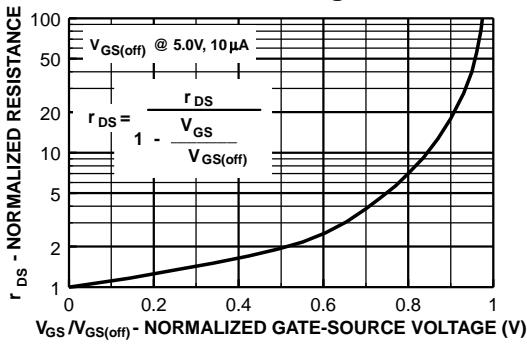
Transfer Characteristics



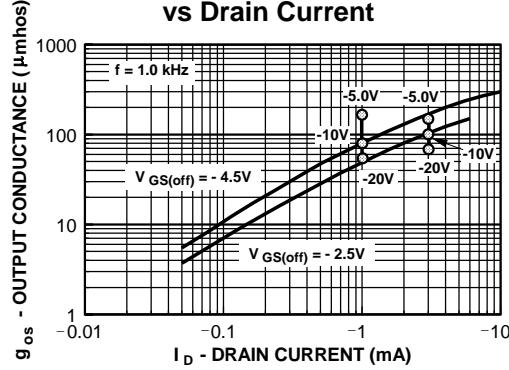
Transfer Characteristics



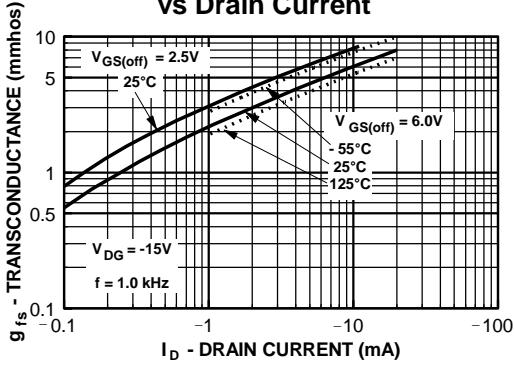
**Normalized Drain Resistance
vs Bias Voltage**



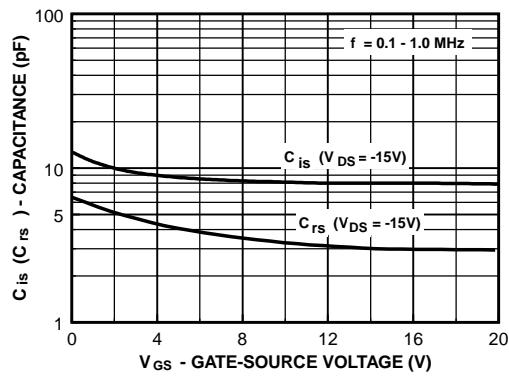
**Output Conductance
vs Drain Current**



**Transconductance
vs Drain Current**



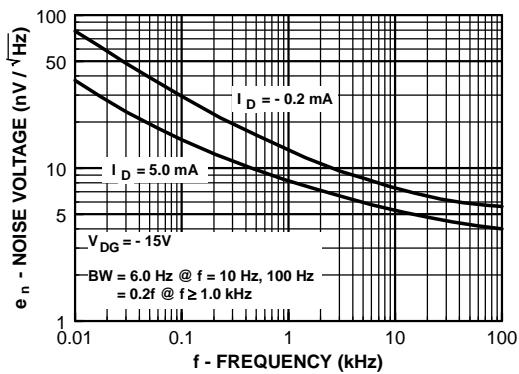
Capacitance vs Voltage



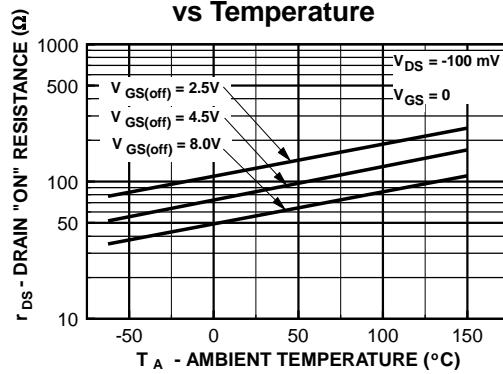
P-Channel Switch (continued)

Typical Characteristics (continued)

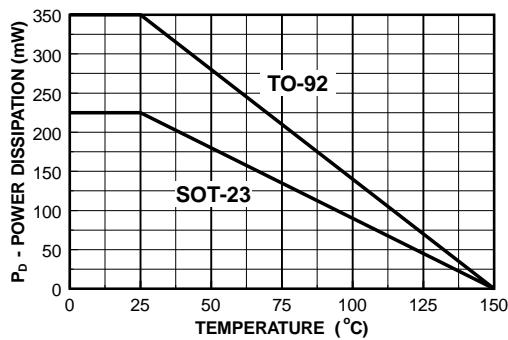
Noise Voltage vs Frequency



Channel Resistance vs Temperature



Power Dissipation vs Ambient Temperature



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