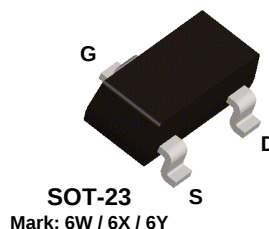
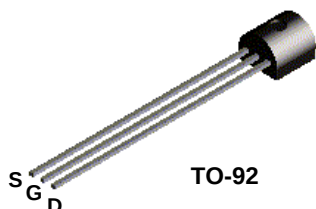


J174
J175
J176
J177

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	350	225	mW
	Derate above 25°C	2.8	1.8	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."

J174 / J175 / J176 / J177 / MMBFJ175 / MMBFJ176 / MMBFJ177

P-Channel Switch
(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

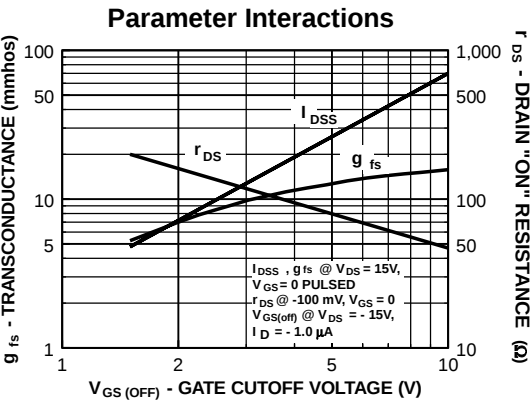
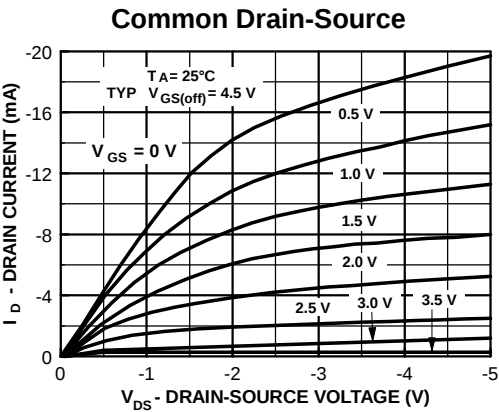
Symbol	Parameter	Test Conditions	Min	Max	Units	
OFF CHARACTERISTICS						
B _{(BR)GSS}	Gate-Source Breakdown Voltage	I _G = 1.0 μA, V _{DS} = 0	30		V	
I _{GSS}	Gate Reverse Current	V _{GS} = 20 V, V _{DS} = 0		1.0	nA	
V _{GS(off)}	Gate-Source Cutoff Voltage	V _{DS} = - 15 V, I _D = - 10 nA	J174	5.0	10	V
			J175	3.0	6.0	V
			J176	1.0	4.0	V
			J177	0.8	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	-100 -60 -25 -20	mA mA mA mA
$r_{DS(on)}$	Drain-Source On Resistance	$V_{DS} \leq 0.1 V, V_{GS} = 0$	J174 J175 J176 J177		85 125 250 300	Ω Ω Ω Ω

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

Typical Characteristics



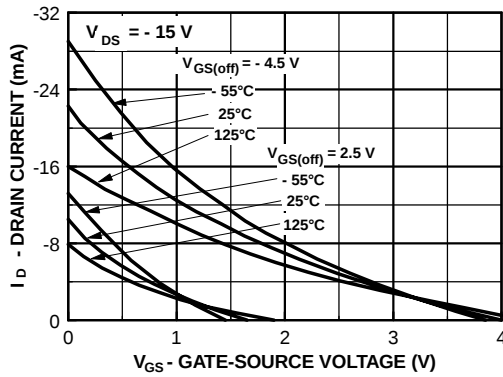
J174 / J175 / J176 / J177 / MMBFJ175 / MMBFJ176 / MMBFJ177

P-Channel Switch

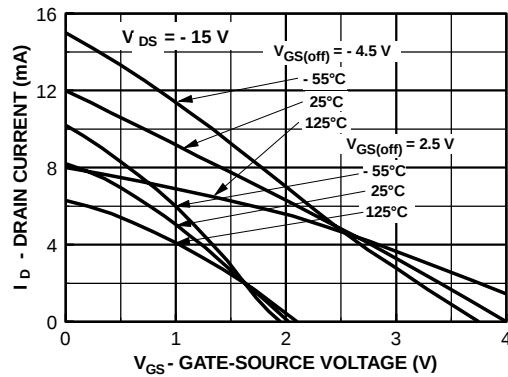
(continued)

Typical Characteristics (continued)

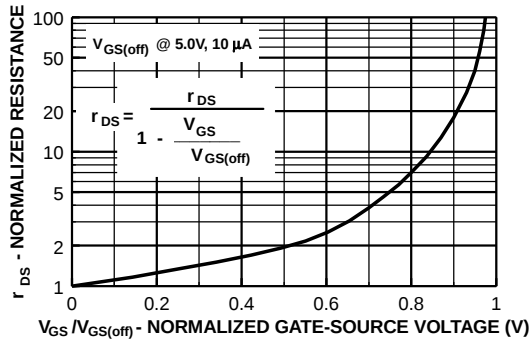
Transfer Characteristics



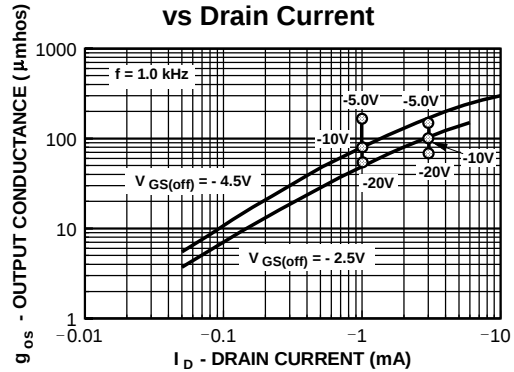
Transfer Characteristics



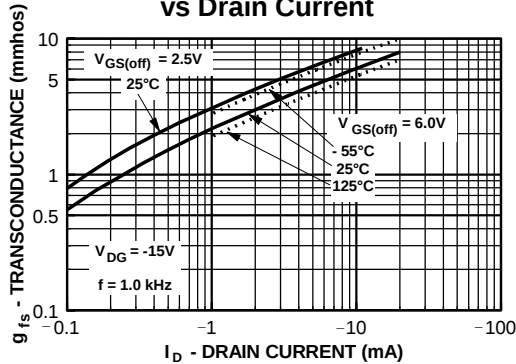
Normalized Drain Resistance vs Bias Voltage



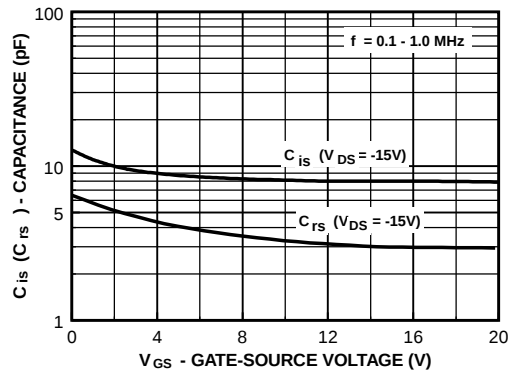
Output Conductance vs Drain Current



Transconductance vs Drain Current



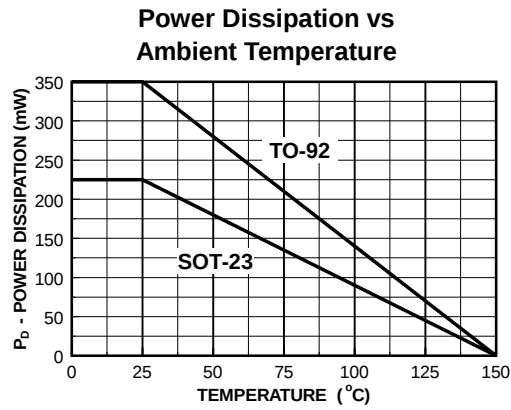
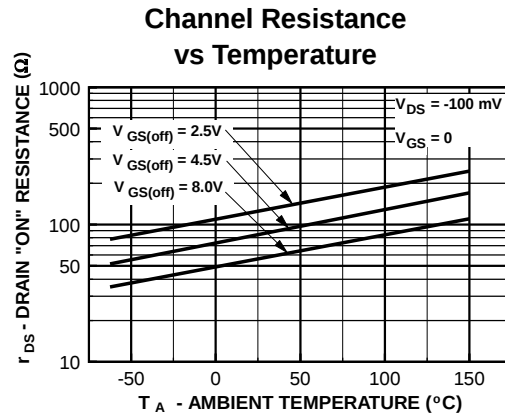
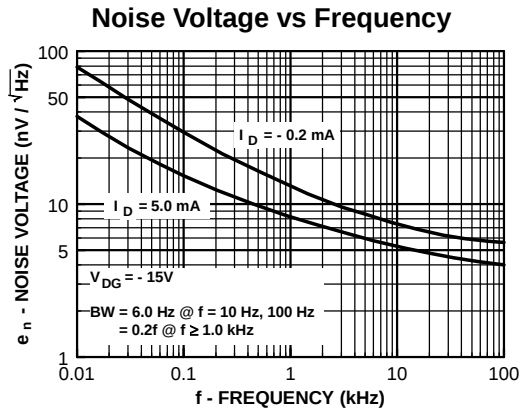
Capacitance vs Voltage



J174 / J175 / J176 / J177 / MMBFJ175 / MMBFJ176 / MMBFJ177

P-Channel Switch (continued)

Typical Characteristics (continued)



J174 / J175 / J176 / J177 / MMBFJ175 / MMBFJ176 / MMBFJ177

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