

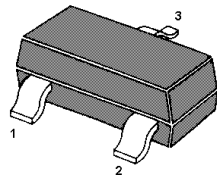
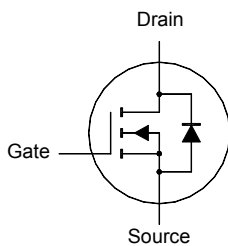
## MMFTN170

### N-Channel Enhancement Mode Field Effect Transistor

#### Feature

Voltage controlled small signal switch

High saturation current capability



1. Gate 2. Source 3. Drain  
SOT-23 Plastic Package

#### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DSS}$	60	V
Drain-Gate Voltage ( $R_{GS} \leq 1\text{ M}\Omega$ )	$V_{DGR}$	60	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
Drain Current - Continuous Drain Current - Pulsed	$I_D$	500 800	mA
Total Power Dissipation	$P_{tot}$	300	mW
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150	$^\circ\text{C}$

#### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 100\text{ }\mu\text{A}$	$V_{(BR)DSS}$	60	-	-	V
Zero Gate Voltage Drain Current at $V_{DS} = 25\text{ V}$	$I_{DSS}$	-	-	0.5	$\mu\text{A}$
Gate-Body Leakage, Forward at $V_{GS} = 15\text{ V}$	$I_{GSSF}$	-	-	10	nA
Gate-Source Threshold Voltage at $V_{DS} = V_{GS}, I_D = 1\text{ mA}$	$V_{GS(th)}$	0.8	-	3	V
Static Drain-Source On-Resistance at $V_{GS} = 10\text{ V}, I_D = 200\text{ mA}$	$R_{DS(on)}$	-	-	5	$\Omega$
Forward Transconductance at $V_{DS} \geq 2 V_{DS(on)}, I_D = 200\text{ mA}$	$g_{FS}$	-	320	-	mS
Input Capacitance at $V_{DS} = 10\text{ V}, f = 1\text{ MHz}$	$C_{iss}$	-	-	40	pF
Output Capacitance at $V_{DS} = 10\text{ V}, f = 1\text{ MHz}$	$C_{oss}$	-	-	30	pF
Reverse Transfer Capacitance at $V_{DS} = 10\text{ V}, f = 1\text{ MHz}$	$C_{rss}$	-	-	10	pF
Turn-On Time at $V_{DD} = 25\text{ V}, I_D = 500\text{ mA}, V_{GS} = 10\text{ V}, R_{GEN} = 50\text{ }\Omega$	$t_{(on)}$	-	-	10	ns
Turn-Off Delay Time at $V_{DD} = 25\text{ V}, I_D = 500\text{ mA}, V_{GS} = 10\text{ V}, R_{GEN} = 50\text{ }\Omega$	$t_{(off)}$	-	-	10	ns