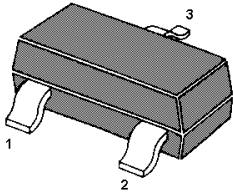
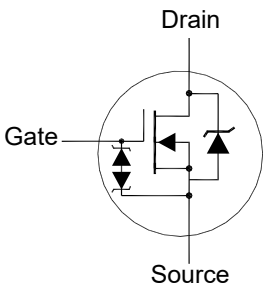


MMFTN501

N-Channel Depletion Mode MOSFET

Features

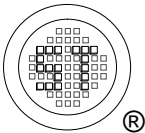
- ESD improved Capability
- dv/dt rated



1. Gate 2. Source 3. Drain
TO-236 Plastic Package

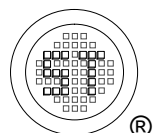
Absolute Maximum Ratings ($T_a = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current $T_C = 70^{\circ}\text{C}$	I_D	30 24	mA
Peak Drain Current, Pulsed	I_{DM}	120	mA
Gate-Source ESD (HBM-C = 100 pF, R = 1.5 K Ω)	$V_{ESD(G-S)}$	300	V
Total Power Dissipation	P_D	500	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	$^{\circ}\text{C/W}$
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

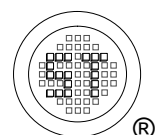
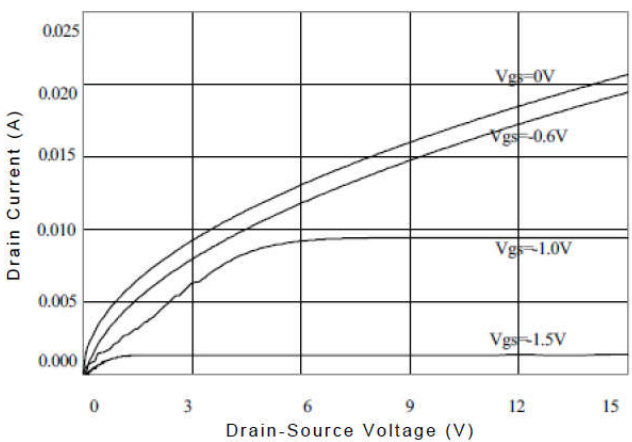
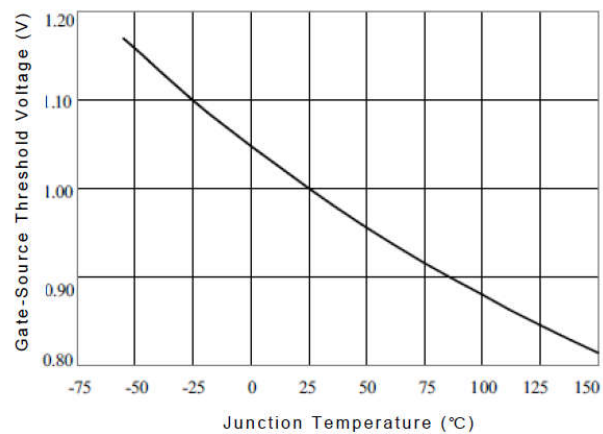
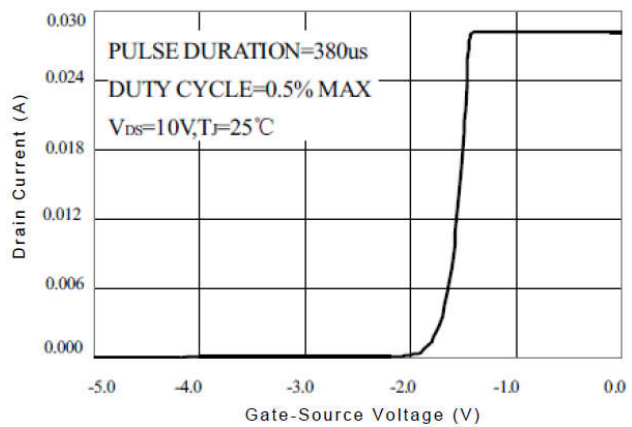
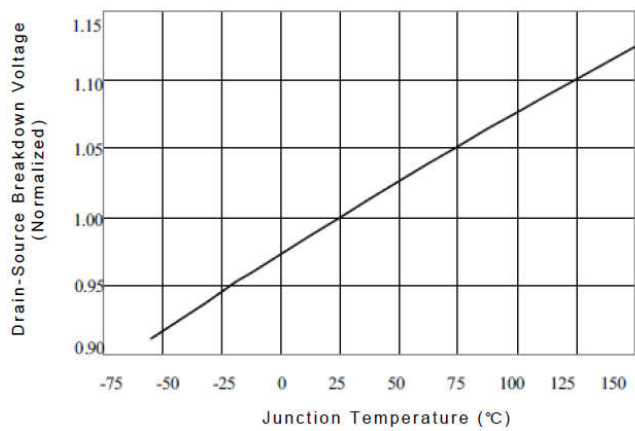
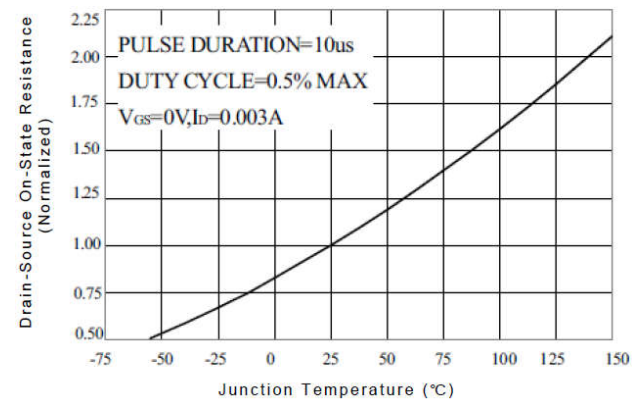


Characteristics at $T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
STATIC PARAMETERS					
Drain-Source Breakdown Voltage at $V_{GS} = -5\text{ V}$, $I_D = 250\text{ }\mu\text{A}$	BV_{DSS}	600	-	-	V
Gate-Source Breakdown Voltage at $I_{GS} = \pm 1\text{ mA}$ (Open Drain)	V_{GSO}	30	-	-	V
Gate-Source Leakage Current at $V_{GS} = \pm 20\text{ V}$	I_{GSS}	-	-	± 10	μA
Drain-Source Leakage Current at $V_{DS} = 600\text{ V}$, $V_{GS} = -5\text{ V}$	I_{DSS}	-	-	0.1	μA
Gate-Source Threshold Voltage at $V_{DS} = 3\text{ V}$, $I_D = 8\text{ }\mu\text{A}$	$V_{GS(th)}$	-2.7	-	-1	V
Drain-Source On-State Resistance at $V_{GS} = 0\text{ V}$, $I_D = 3\text{ mA}$ at $V_{GS} = 10\text{ V}$, $I_D = 16\text{ mA}$	$R_{DS(ON)}$	- -	- -	700 800	Ω
Forward Transconductance at $V_{DS} = 50\text{ V}$, $I_D = 10\text{ mA}$	g_{FS}	8	-	-	mS
DYNAMIC PARAMETERS					
Input Capacitance at $V_{GS} = -5\text{ V}$, $V_{DS} = 25\text{ V}$, $f = 1\text{ MHz}$	C_{iss}	-	50	-	pF
Output Capacitance at $V_{GS} = -5\text{ V}$, $V_{DS} = 25\text{ V}$, $f = 1\text{ MHz}$	C_{oss}	-	4.53	-	pF
Reverse Transfer Capacitance at $V_{GS} = -5\text{ V}$, $V_{DS} = 25\text{ V}$, $f = 1\text{ MHz}$	C_{rss}	-	1.08	-	pF
Turn-On Delay Time at $V_{DD} = 300\text{ V}$, $I_D = 10\text{ mA}$, $V_{GS} = -5\sim 7\text{ V}$, $R_G = 6\text{ }\Omega$	$t_{d(on)}$	-	9.9	-	ns
Turn-On Rise Time at $V_{DD} = 300\text{ V}$, $I_D = 10\text{ mA}$, $V_{GS} = -5\sim 7\text{ V}$, $R_G = 6\text{ }\Omega$	t_r	-	55.8	-	ns
Turn-Off Delay Time at $V_{DD} = 300\text{ V}$, $I_D = 10\text{ mA}$, $V_{GS} = -5\sim 7\text{ V}$, $R_G = 6\text{ }\Omega$	$t_{d(off)}$	-	56.4	-	ns
Turn-Off Fall Time at $V_{DD} = 300\text{ V}$, $I_D = 10\text{ mA}$, $V_{GS} = -5\sim 7\text{ V}$, $R_G = 6\text{ }\Omega$	t_f	-	136	-	ns
Body-Diode PARAMETERS					
Drain-Source Diode Forward Voltage at $I_F = 16\text{ mA}$, $V_{GS} = -5\text{ V}$	V_{SD}	-	-	1.2	V



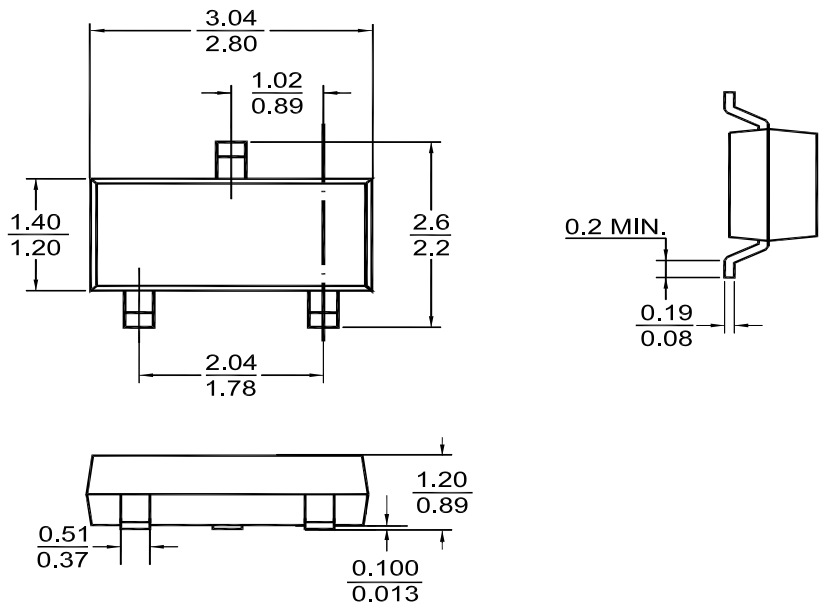
Ratings and Electrical Characteristics Curves



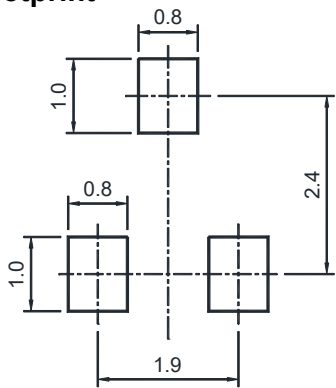
PACKAGE OUTLINE

Plastic surface mounted package (Dimensions in mm)

TO-236



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-236	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" 5H " = Part No.
"YM" = Date Code Marking
"Y" = Year
"M" = Month
Font type: Arial

