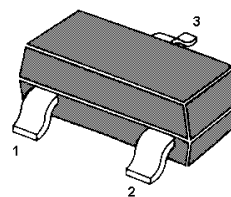
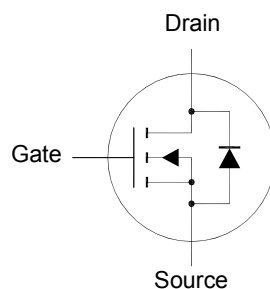


MMFTN3406

N-Channel Enhancement Mode Power MOSFET

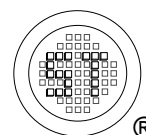


1. Gate 2. Source 3. Drain
TO-236 Plastic Package

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3.6	A
Drain Current - Pulsed ¹⁾	I_{DM}	15	A
Power Dissipation ¹⁾	P_D	1.4	W
Thermal Resistance, Junction to Ambient ¹⁾	$R_{\theta JA}$	90	$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

1) The current rating is based on the $t \leq 10$ s thermal resistance rating.



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

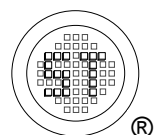
Parameter	Symbol	Min.	Typ.	Max.	Unit
STATIC PARAMETERS					
Drain-Source Breakdown Voltage at $I_D = 250\ \mu\text{A}$	$V_{(BR)DSS}$	30	-	-	V
Drain-Source Leakage Current at $V_{DS} = 24\ \text{V}$	I_{DSS}	-	-	1	μA
Gate-Source Leakage Current at $V_{GS} = \pm 20\ \text{V}$	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage at $V_{GS} = V_{DS}$, $I_D = 250\ \mu\text{A}$	$V_{GS(th)}$	1	-	2	V
Drain-Source On-State Resistance at $V_{GS} = 10\ \text{V}$, $I_D = 3.6\ \text{A}$ at $V_{GS} = 4.5\ \text{V}$, $I_D = 2.8\ \text{A}$	$R_{DS(on)}$	- -	- -	65 105	m Ω
DYNAMIC PARAMETERS					
Input Capacitance at $V_{DS} = 25\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1\ \text{MHz}$	C_{iss}	-	400	-	pF
Output Capacitance at $V_{DS} = 25\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1\ \text{MHz}$	C_{oss}	-	80	-	pF
Reverse Transfer Capacitance at $V_{DS} = 25\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1\ \text{MHz}$	C_{rss}	-	45	-	pF
Turn-On Delay Time at $V_{DD} = 15\ \text{V}$, $I_D = 1\ \text{A}$, $V_{GEN} = 10\ \text{V}$, $R_G = 6\ \Omega$, $R_L = 15\ \Omega$	$t_{d(on)}$	-	-	19	ns
Rise Time at $V_{DD} = 15\ \text{V}$, $I_D = 1\ \text{A}$, $V_{GEN} = 10\ \text{V}$, $R_G = 6\ \Omega$, $R_L = 15\ \Omega$	t_r	-	-	15	ns
Turn-Off Delay Time at $V_{DD} = 15\ \text{V}$, $I_D = 1\ \text{A}$, $V_{GEN} = 10\ \text{V}$, $R_G = 6\ \Omega$, $R_L = 15\ \Omega$	$t_{d(off)}$	-	-	35	ns
Fall Time at $V_{DD} = 15\ \text{V}$, $I_D = 1\ \text{A}$, $V_{GEN} = 10\ \text{V}$, $R_G = 6\ \Omega$, $R_L = 15\ \Omega$	t_f	-	-	12	ns

Drain-Source Diode Characteristics and Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Drain-Source Diode Forward Voltage ²⁾ at $V_{GS} = 0\ \text{V}$, $I_S = 1.25\ \text{A}$	V_{SD}	-	1.3	V
Diode Forward Current ³⁾	I_S	-	1.3	A

²⁾ Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$, Duty Cycle $\leq 2\%$

³⁾ The current rating is based on the $t \leq 10\ \text{s}$ thermal resistance rating.



Ratings and Electrical Characteristics Curves

Fig.1 Transfer Characteristic

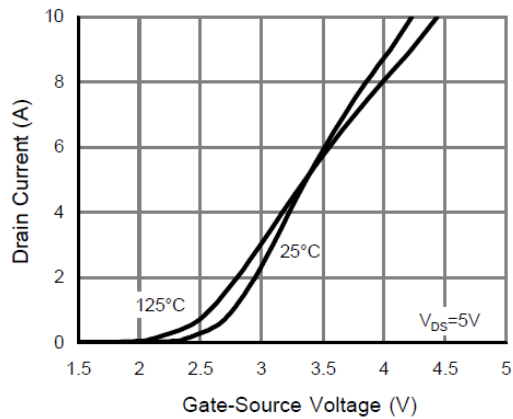


Fig.2 Output Characteristic

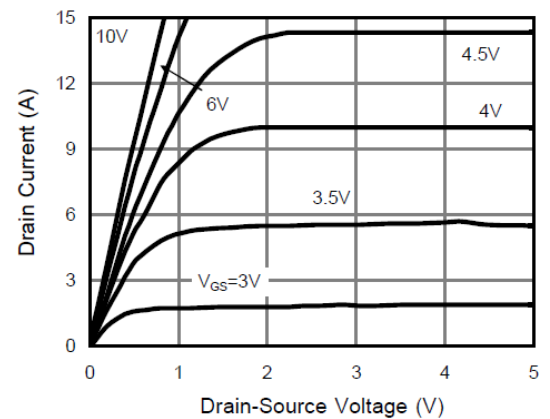


Fig.3 Normalized On-Resistance vs Temperature

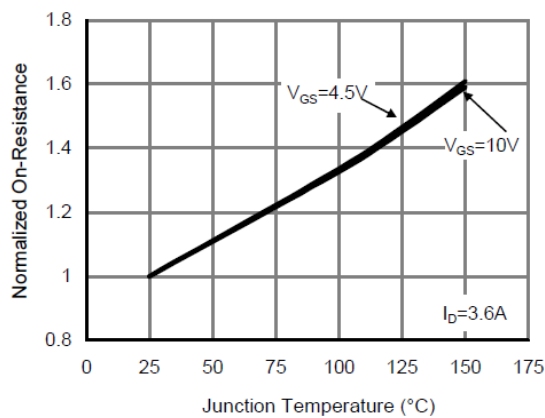


Fig.4 On-Resistance vs Gate-Source Voltage

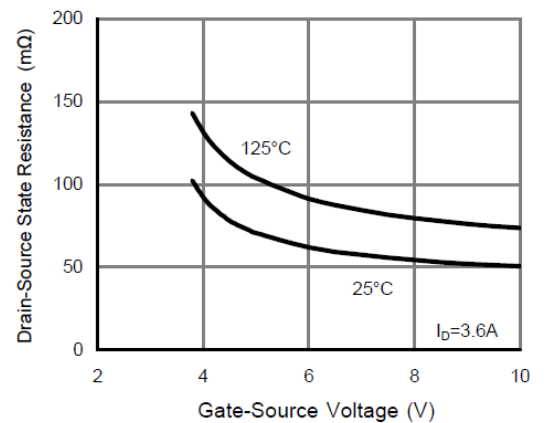


Fig.5 Junction Capacitance

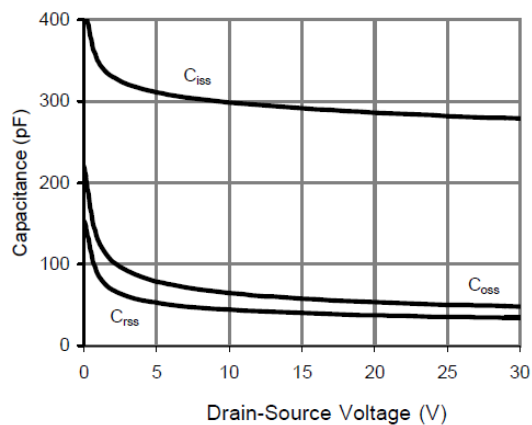
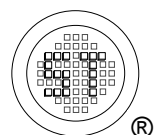
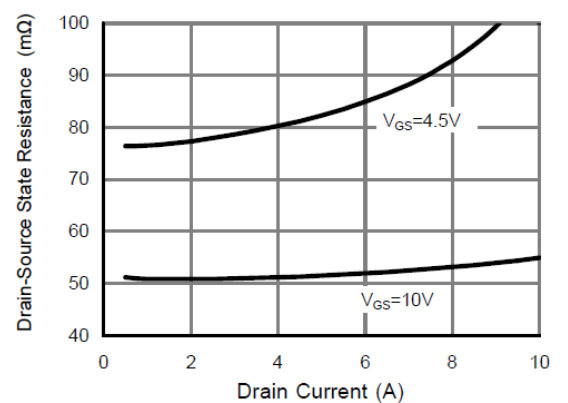


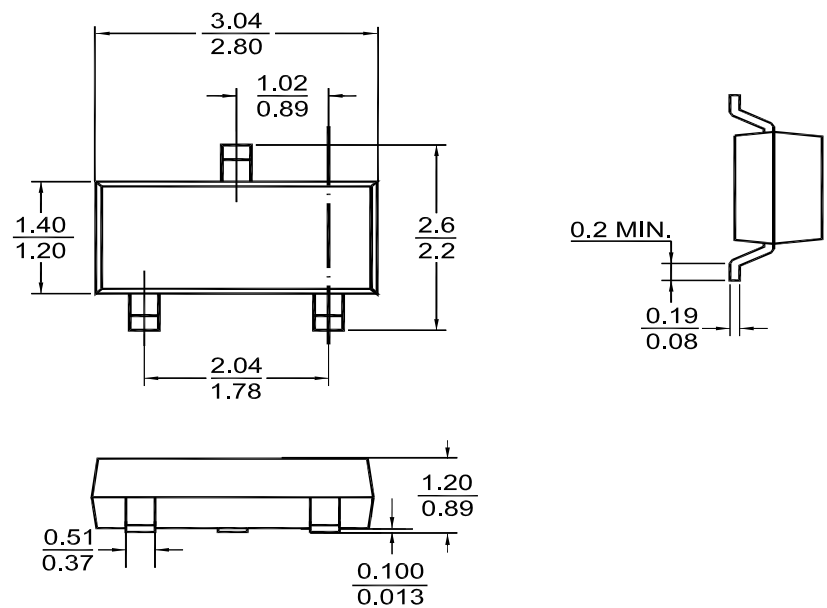
Fig.6 On-Resistance vs Drain Current



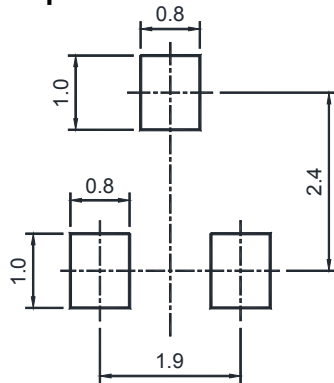
PACKAGE OUTLINE

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

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

