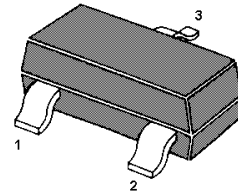


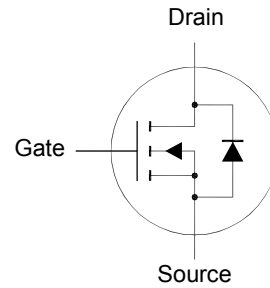
MMFTN2302

N-Channel Logic Level Enhancement Mode Field Effect Transistor

for high power and current handing capability



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



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	20	V
Drain-Gate Voltage	V_{GS}	± 8	V
Drain Current - Continuous	I_D	2.4	A
Drain Current - Pulsed ¹⁾	I_{DM}	10	A
Total Power Dissipation ($t \leq 10$ s)	P_{tot}	0.9	W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Repetitive Rating: Pulse width limited by maximum junction temperature.

TOP DYNAMIC



Dated: 30/09/2013 Rev: 03 CL

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $I_D = 250\ \mu\text{A}$	$V_{(BR)DSS}$	20	-	-	V
Drain-Source Leakage Current at $V_{DS} = 20\ \text{V}$	I_{DSS}	-	-	1	μA
Gate-Source Leakage Current at $V_{GS} = \pm 8\ \text{V}$	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage at $V_{GS} = V_{DS}$, $I_D = 250\ \mu\text{A}$	$V_{GS(th)}$	0.65	-	1.2	V
Drain-Source On-State Resistance at $V_{GS} = 2.5\ \text{V}$, $I_D = 3.1\ \text{A}$ at $V_{GS} = 4.5\ \text{V}$, $I_D = 3.6\ \text{A}$	$R_{DS(on)}$	- -	- -	115 60	m Ω
Forward Transconductance at $V_{DS} = 5\ \text{V}$, $I_D = 3.6\ \text{A}$	g_{FS}	-	8	-	S
Input Capacitance at $V_{DS} = 10\ \text{V}$, $f = 1\ \text{MHz}$	C_{iss}	-	300	-	pF
Output Capacitance at $V_{DS} = 10\ \text{V}$, $f = 1\ \text{MHz}$	C_{oss}	-	120	-	pF
Reverse Transfer Capacitance at $V_{DS} = 10\ \text{V}$, $f = 1\ \text{MHz}$	C_{rss}	-	80	-	pF
Turn-On Delay Time at $V_{DD} = 10\ \text{V}$, $I_D = 3.6\ \text{A}$, $V_{GS} = 4.5\ \text{V}$, $R_L = 2.8\ \Omega$, $R_G = 6\ \Omega$	$t_{d(on)}$	-	-	15	ns
Turn-On Rise Time at $V_{DD} = 10\ \text{V}$, $I_D = 3.6\ \text{A}$, $V_{GS} = 4.5\ \text{V}$, $R_L = 2.8\ \Omega$, $R_G = 6\ \Omega$	t_r	-	-	80	ns
Turn-Off Delay Time at $V_{DD} = 10\ \text{V}$, $I_D = 3.6\ \text{A}$, $V_{GS} = 4.5\ \text{V}$, $R_L = 2.8\ \Omega$, $R_G = 6\ \Omega$	$t_{d(off)}$	-	-	60	ns
Turn-Off Fall Time at $V_{DD} = 10\ \text{V}$, $I_D = 3.6\ \text{A}$, $V_{GS} = 4.5\ \text{V}$, $R_L = 2.8\ \Omega$, $R_G = 6\ \Omega$	t_f	-	-	25	ns

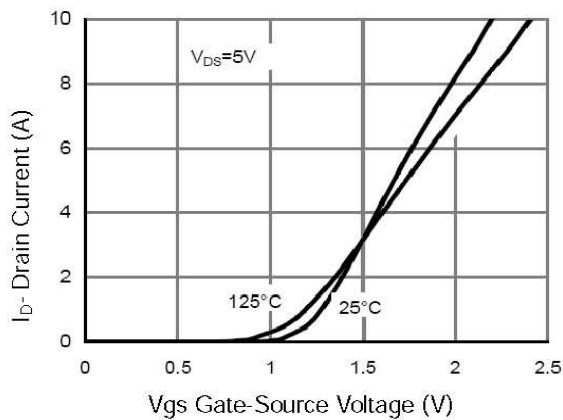


Figure 1. Transfer Characteristics

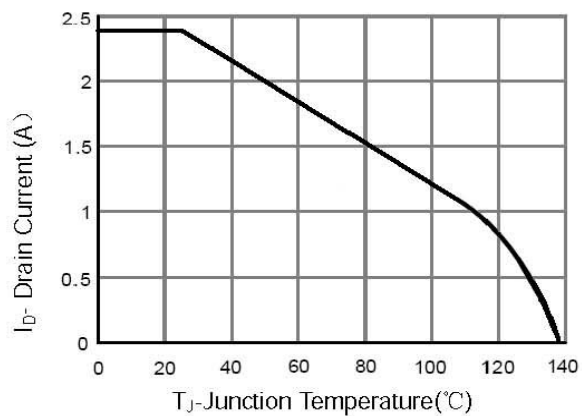


Figure 2. Drain Current

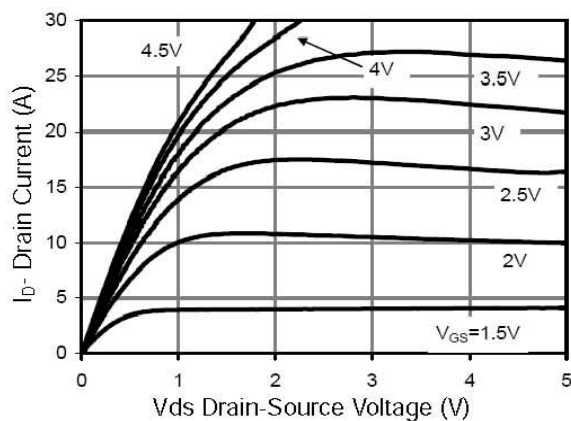


Figure 3. Output CHARACTERISTICS

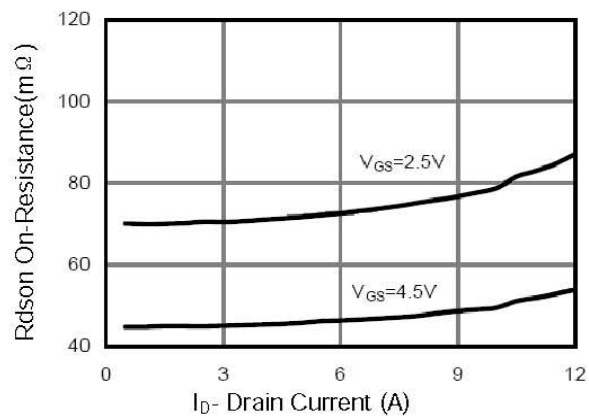


Figure 4. Drain-Source On-Resistance