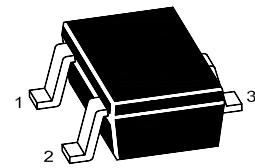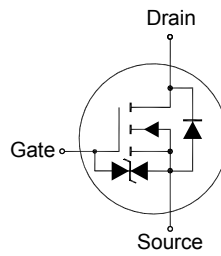# MMFTN3018W

Silicon N-Channel MOSFET

Applications

• Interfacing, switching

1. Gate 2. Source 3. Drain
SOT-323 Plastic Package

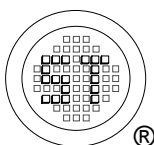### Absolute Maximum Ratings (T_a = 25 ^{o}C)

Parameter	Symbol	Value	Unit
Drain Source Voltage	V_{DSS}	30	V
Gate Source Voltage	V_{GSS}	± 20	V
Drain Current - Continuous Drain Current - Pulsed	I_D I_{DP} [1]	±100 ±400	mA
Total Power Dissipation	P_{tot} [2]	200	mW
Channel Temperature	T_{ch}	150	^{o}C
Storage Temperature Range	T_{stg}	- 55 to + 150	^{o}C

[1] Pw ≤ 10 µs, duty cycle ≤ 1%
[2] With each pin mounted on the recommended lands

Characteristics at T_a = 25 ^{o}C

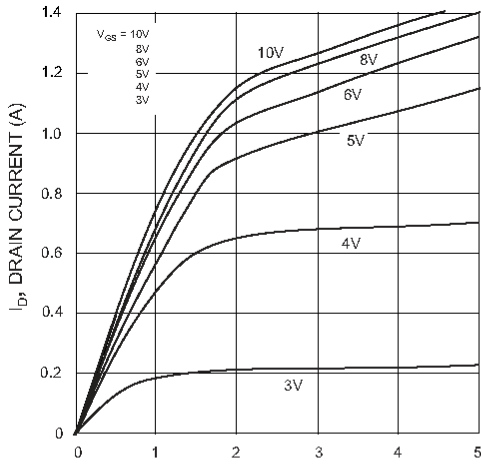| Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain Source Breakdown Voltage at I_D = 10 µA	$V_{(BR)DSS}$	30	-	-	V
Zero Gate Voltage Drain Current at V_{DS} = 30 V	I_{DSS}	-	-	1	µA
Gate Source Leakage Current at V_{GS} = ± 20 V	I_{GSS}	-	-	± 1	µA
Gate Source Threshold Voltage at V_{DS} = 3 V, I_D = 100 µA	$V_{GS(th)}$	0.8	-	1.5	V
Static Drain Source On-State Resistance at V_{GS} = 4 V, I_D = 10 mA	$R_{DS(on)}$	-	-	8	Ω
Static Drain Source On-State Resistance at V_{GS} = 2.5 V, I_D = 1 mA	$R_{DS(on)}$	-	-	13	Ω
Forward Transfer Admittance at V_{DS} = 3 V, I_D = 10 mA	$|y_{fs}|$	20	-	-	mS
Input Capacitance at V_{DS} = 5 V, f = 1 MHz	C_{iss}	-	13	-	pF
Output Capacitance at V_{DS} = 5 V, f = 1 MHz	C_{oss}	-	9	-	pF
Reverse Transfer Capacitance at V_{DS} = 5 V, f = 1 MHz	C_{rss}	-	4	-	pF
Turn-On delayTime at V_{DD} = 5 V, I_D = 10 mA, V_{GS} = 5 V, R_L = 500 Ω, R_G = 10 Ω	$t_{d(on)}$	-	15	-	ns
Turn-Off Delay Time at V_{DD} = 5 V, I_D = 10 mA, V_{GS} = 5 V, R_L = 500 Ω, R_G = 10 Ω	$t_{d(off)}$	-	80	-	ns
Rise Time at V_{DD} = 5 V, I_D = 10 mA, V_{GS} = 5 V, R_L = 500 Ω, R_G = 10 Ω	t_r	-	35	-	ns
Turn-off delay time at V_{DD} = 5 V, I_D = 10 mA, V_{GS} = 5 V, R_L = 500 Ω, R_G = 10 Ω	t_f	-	80	-	ns

MMFTN3018W

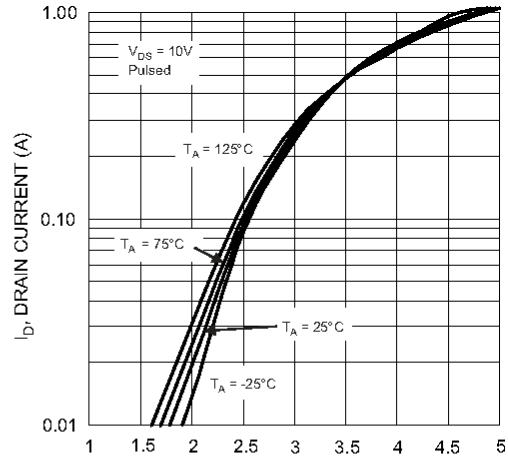Fig. 1 Typical Output Characteristics
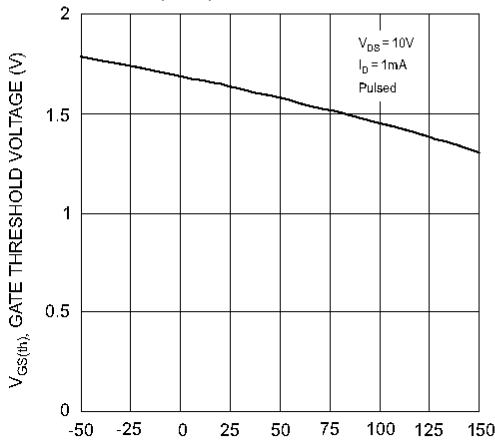

Fig. 2 Typical Transfer Characteristics

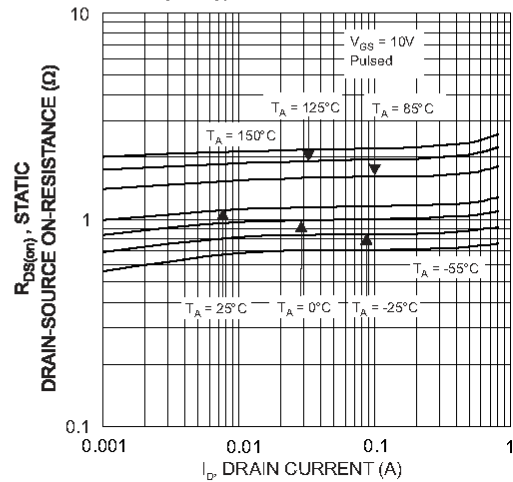Fig. 3 Gate Threshold Voltage vs. Channel Temperature

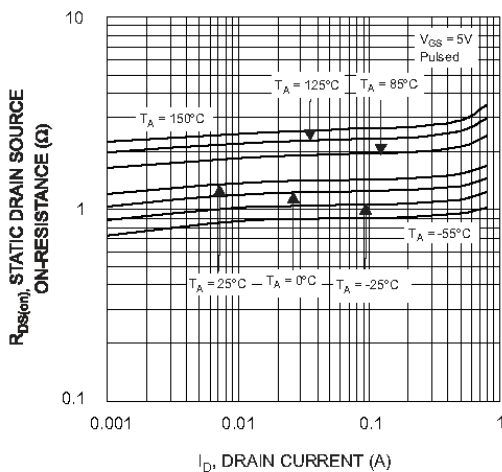Fig. 4 Static Drain-Source On-Resistance Vs. Drain Current

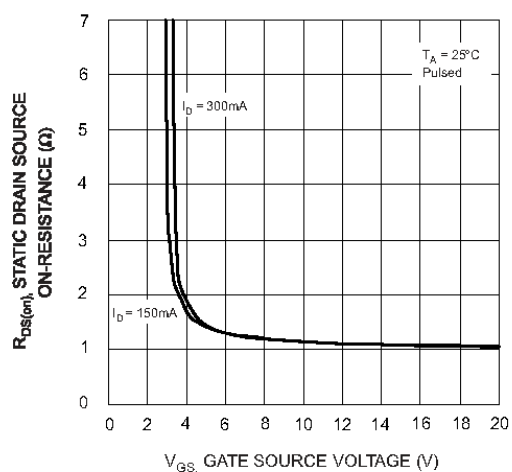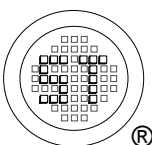Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

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