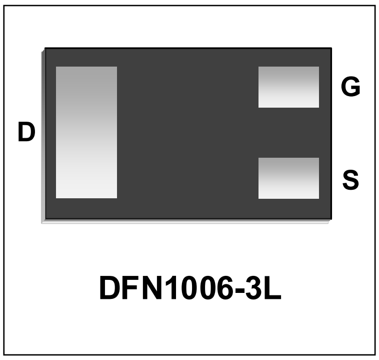
WAYON

WM02P18F

P-Channel Enhancement MOSFET



DFN1006-3L

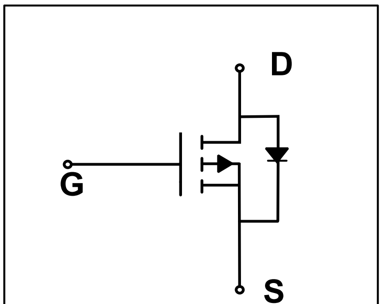
Features

- Way-on Small Signal MOSFETs
- V_{DS}= -20V, I_D = -1.8A
  $R_{DS(on)}$ < 135mΩ @ V_{GS} = -4.5V
  $R_{DS(on)}$ < 180mΩ @ V_{GS} = -2.5V
- Trench LV MOSFET Technology

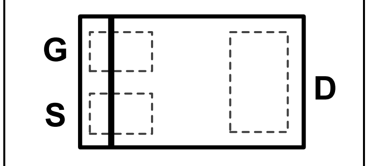
Mechanical Characteristics

- DFN1006-3L Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Device symbol



DFN1006-3L(Top View)

Absolute Maximum Rating (T_A=25°C unless otherwise noted)

Rating		Symbol	Value	Units
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Current	T_A=25°C	I_D	-1.8	A
Pulsed Drain Current[1]		I_{DM}	-7.2	A
Power Dissipation	T_A=25°C	P_D	0.7	W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	179	°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}= 0V, I_D= -250μA	-20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= -20V, V_{GS}= 0V	-	-	-1	μA
Gate-Source Leakage	I_{GSS}	V_{DS}= 0V, V_{GS}= ±10V	-	-	±100	nA
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS}= $V_{GS,}$ I_D= -250μA	-0.4	-	-1.0	V
Drain-Source on-State Resistance[3]	$R_{DS(on)}$	V_{GS}= -4.5V, I_D= -1.7A	-	112	135	mΩ
		V_{GS}= -2.5V, I_D= -1.2A	-	149	180	
		V_{GS}= -1.8V, I_D= -1.0A	-	207	250	
Dynamic Characteristics[4]						
Input Capacitance	C_{iss}	V_{GS} = 0V , V_{DS} = -10V, f=1MHz	-	168	-	pF
Output Capacitance	C_{oss}		-	30	-	
Reverse Transfer Capacitance	C_{rss}		-	24	-	
Switching Characteristics[4]						
Total Gate Charge	Q_g	V_{GS} = -4.5V ,V_{DS}= -10V , I_D= -1.7A		2.72		nC
Gate−Source Charge	Q_{gs}			0.49		
Gate−Drain Charge	Q_{gd}			0.57		
Turn-On Delay Time	$t_{d(on)}$	V_{GS} = -4.5V ,V_{DD}= -10V , R_G= 3Ω, I_D= -1.7A	-	6.5	-	ns
Rise Time	t_r		-	4.8	-	
Turn-Off Delay Time	$t_{d(off)}$		-	18	-	
Fall Time	t_f		-	5	-	
Drain-Source Body Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	I_S= -1A, V_{GS}= 0V	-	-	-1.2	V
Continuous Source Current	I_S	-	-	-	-1.8	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}$=150°C.
2. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.
4. This value is guaranteed by design hence it is not included in the production test.

Typical Characteristics

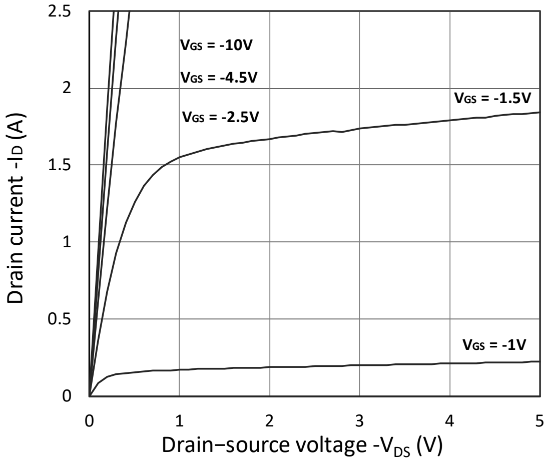


Figure 1. Output Characteristics

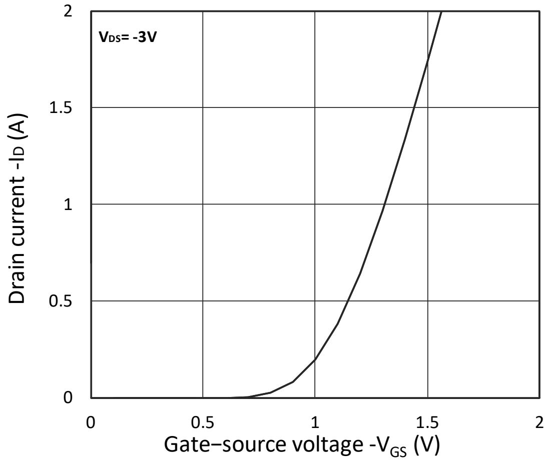


Figure 2. Transfer Characteristics

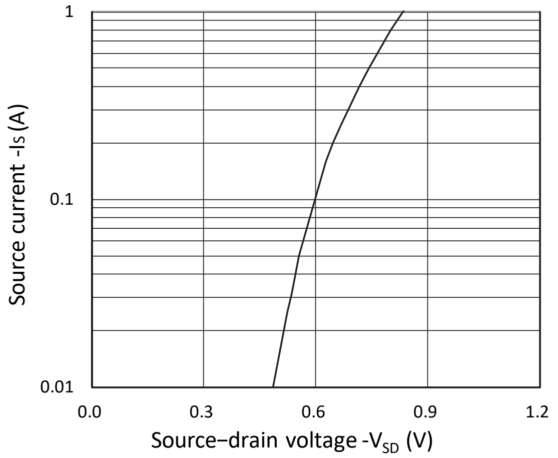


Figure 3. Forward Characteristics of Reverse

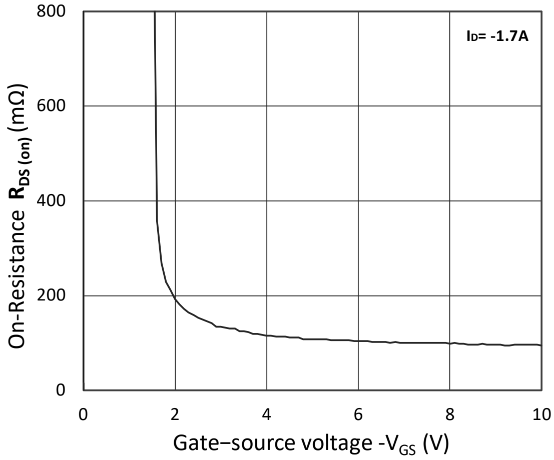


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

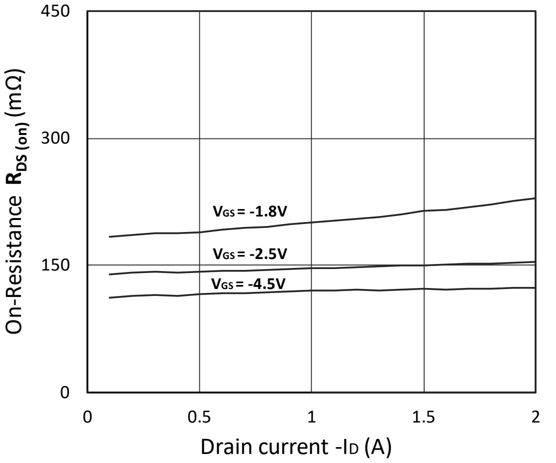


Figure 5. $R_{DS(ON)}$ vs. I_D

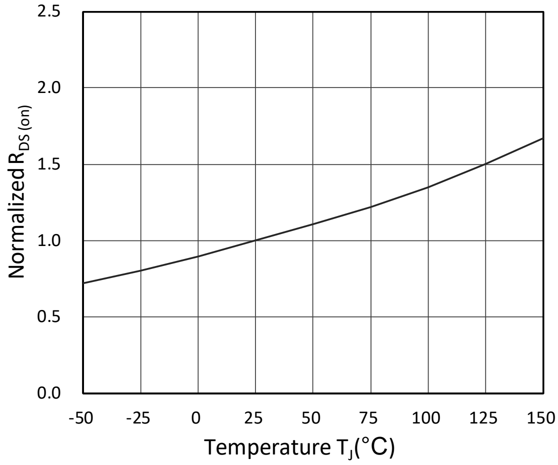


Figure 6. Normalized RDS(on) vs. Temperature

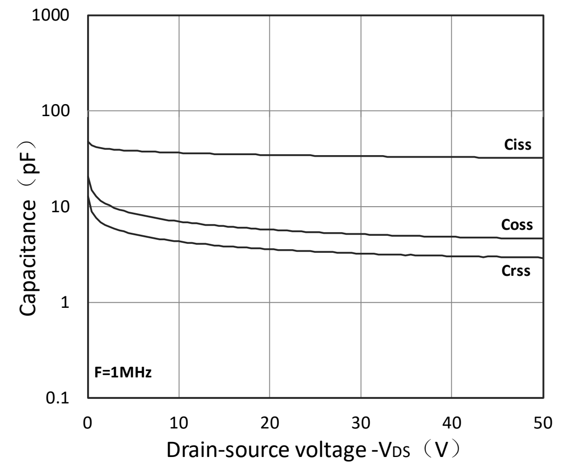
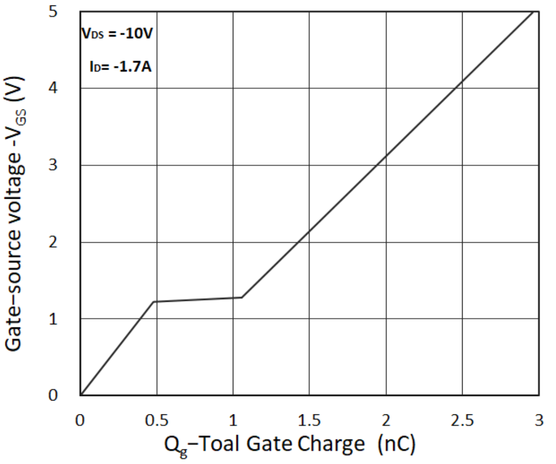
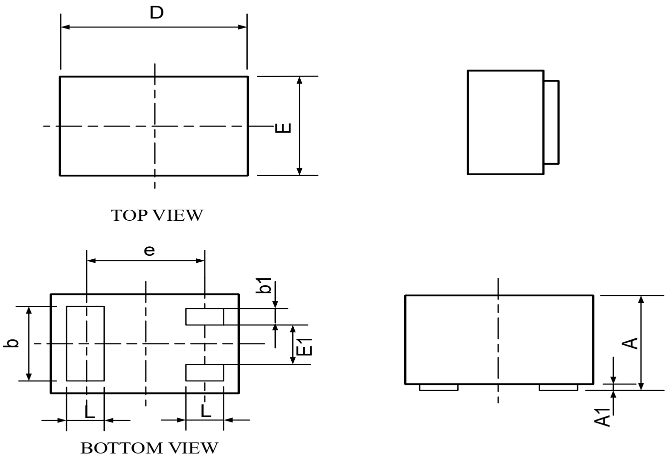
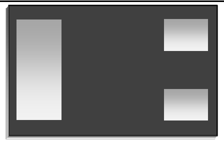
	

Figure 7. Capacitance Characteristics	Figure 8. Gate Charge Characteristics

Outline Drawing – DFN1006-3L

PACKAGE OUTLINE

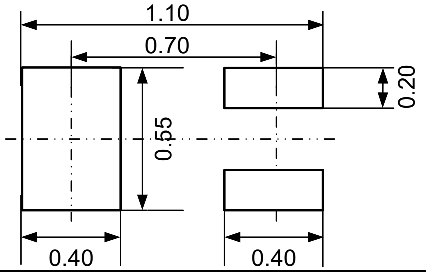




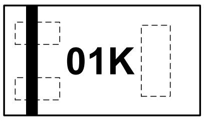
DFN1006-3L

DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.45	0.55	0.018	0.022
A1	0.00	0.05	0.000	0.002
b	0.40	0.60	0.016	0.024
b1	0.10	0.20	0.004	0.008
D	0.95	1.05	0.037	0.041
e	0.65BSC		0.026BSC	
E	0.55	0.65	0.022	0.026
E1	0.19BSC		0.007BSC	
L	0.20	0.30	0.008	0.012

Land Pattern



Marking Codes

Part Number	WM02P18F
Marking Code	

Package Information

Qty：10k/Reel

CONTACT INFORMATION

No.1001, Shiwan (7) Road, Pudong District, Shanghai, P.R.China.201207
Tel: 86-21-68969993 Fax: 86-21-50757680 Email: market@way-on.com
WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.

® is registered trademark of Wayon Corporation.