

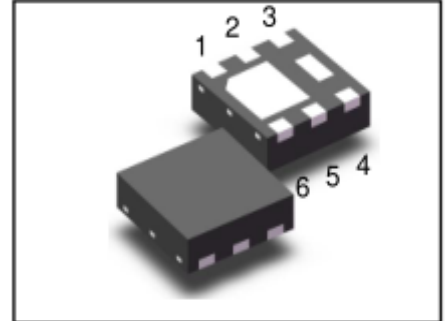


# WM03P115R

## P-Channel MOSFET

### Features

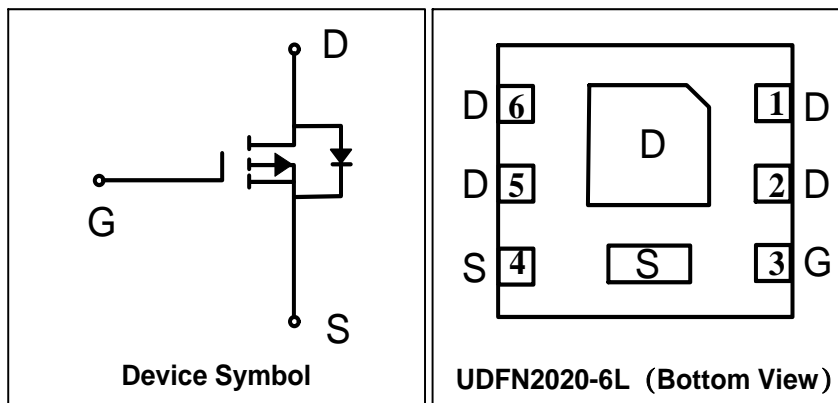
- $V_{DS} = -30\text{ V}$ ,  $I_D = -11.5\text{ A}$   
 $R_{DS(on)} < 24\text{ m}\Omega @ V_{GS} = -10\text{ V}$   
 $R_{DS(on)} < 33\text{ m}\Omega @ V_{GS} = -4.5\text{ V}$
- High Power and Current Handling Capability
- Fast Switching Speed
- Surface Mount Package



### Mechanical Characteristics

- UDFN2020-6L Package
- Marking : Making Code
- RoHS Compliant

### Schematic & PIN Configuration



### Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Drain-Source breakdown voltage	$V_{DS}$	-30	V
Gate-Source voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current	$I_D$	-11.5	A
Pulsed Drain Current	$I_{DM}$	-45	
Power Dissipation	$P_D$	2.9	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	41	$^{\circ}\text{C/W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	

**Electrical Characteristics** ( $T_{amb}=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30	-	-	V
Gate-body Leakage current	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$	-	-	$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -30V, V_{GS} = 0V$	-	-	-1	$\mu A$
<b>On characteristics</b>						
Gate-Threshold Voltage <sup>1</sup>	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.0	-1.6	-3.0	V
Drain-Source On-Resistance <sup>1</sup>	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -9.1A$	-	16	24	m $\Omega$
		$V_{GS} = -4.5V, I_D = -6.9A$	-	23	34	
Forward Transconductance <sup>1</sup>	$g_{fs}$	$V_{DS} = -10V, I_D = -5A$	-	14	-	S
<b>Dynamic Characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$	-	1510	-	pF
Output Capacitance	$C_{oss}$		-	190	-	
Reverse Transfer Capacitance	$C_{rss}$		-	146	-	
<b>Switching Characteristics</b>						
Total Gate Charge	$Q_g$	$V_{GS} = -4.5V, I_D = -9.1A, V_{DS} = -15V$	-	18	-	nC
Gate-Source Charge	$Q_{gs}$		-	5.2	-	
Gate-Drain Charge	$Q_{gd}$		-	6.7	-	
Turn-On Delay Time <sup>2</sup>	$t_{d(on)}$	$V_{DD} = -15V, V_{GS} = -10V, R_G = 1\Omega, R_L = 15\Omega, I_D = -1A$	-	10	-	nS
Rise Time <sup>2</sup>	$t_r$		-	15	-	
Turn-Off Delay Time <sup>2</sup>	$t_{d(off)}$		-	53	-	
Fall Time <sup>2</sup>	$t_f$		-	12	-	
<b>Drain-Source Diode Characteristics And Maximum Ratings</b>						
Diode Forward Voltage <sup>1</sup>	$V_{SD}$	$I_S = -1A, V_{GS} = 0V$	-	-	-1.2	V

## Notes

1. Pulse Test: Pulse Width $\leq 300\mu s$ , Duty Cycle $\leq 2\%$ .
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

Figure 1. Output Characteristics

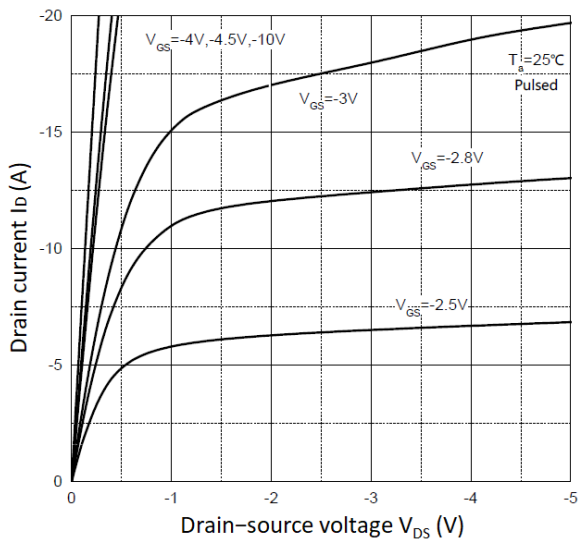


Figure 2. Transfer Characteristics

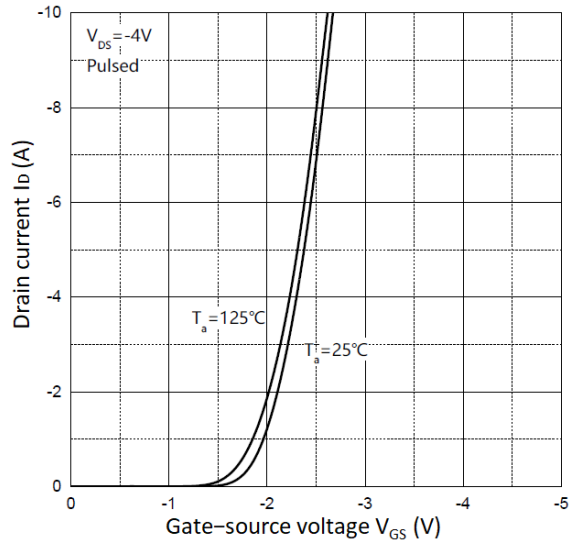


Figure 3.  $R_{DS(ON)}$  vs.  $I_D$

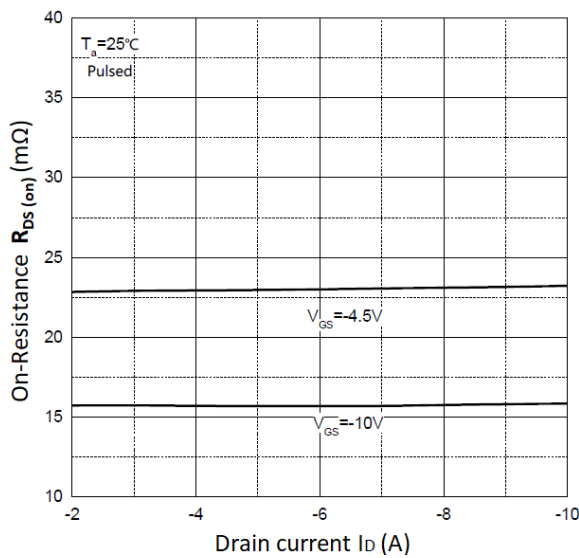


Figure 4.  $R_{DS(ON)}$  vs.  $V_{GS}$

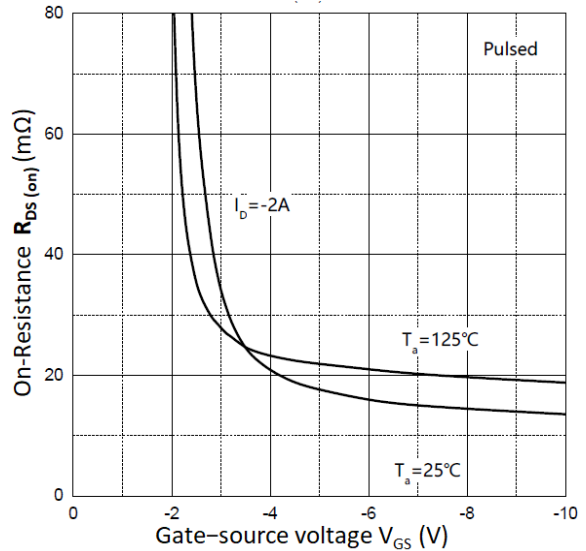


Figure 5.  $I_S$  vs.  $V_{SD}$

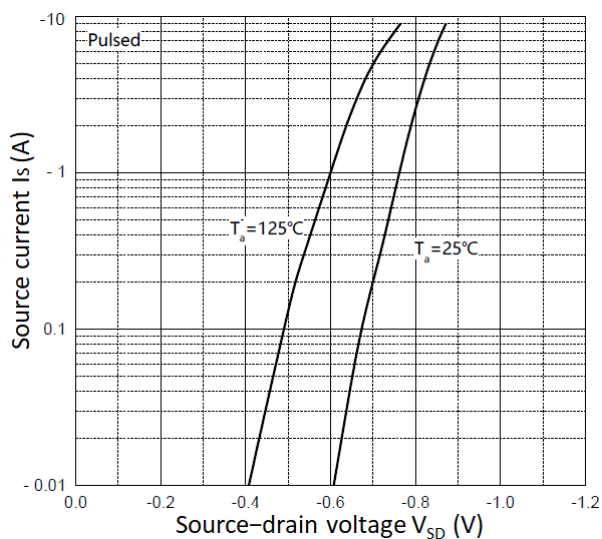
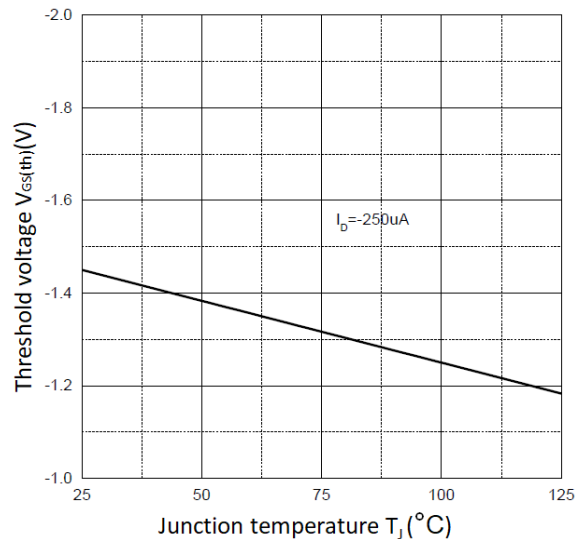
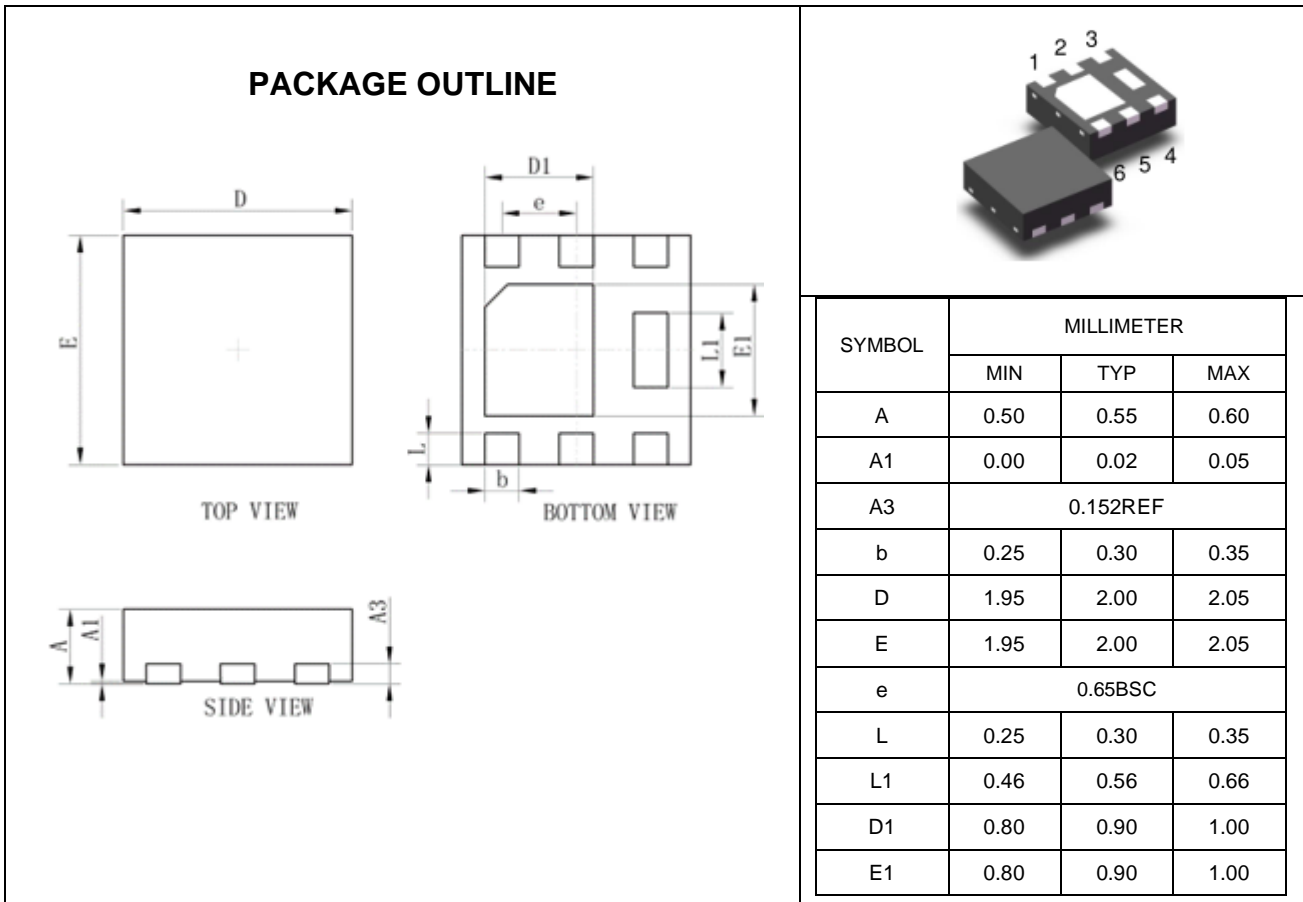


Figure 6. Threshold Voltage



Outline Drawing – UDFN2020-6L



**Marking Codes**

Part Number	WM03P115R
Marking Code	

**Package Information**

Qty: 3k/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](mailto:market@way-on.com)

WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

**WAYON** ® is registered trademark of Wayon Corporation.

Specifications are subject to change without notice.  
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
Users should verify actual device performance in their specific applications.