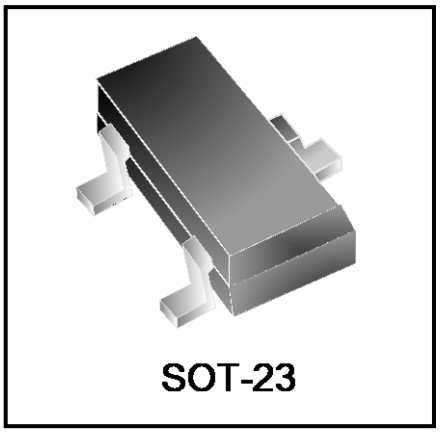
WM03P19M

P-Channel MOSFET

Features

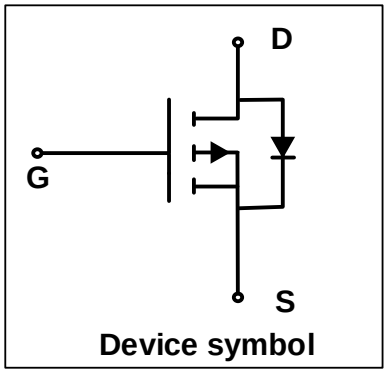
- V_{DS}= -30 V, I_D = -1.9 A
  $R_{DS(on)}$ < 0.19Ω @ V_{GS} = -10V
  $R_{DS(on)}$ < 0.33Ω @ V_{GS} = -4.5V
- Trench Technology
- Super High Density Cell Design



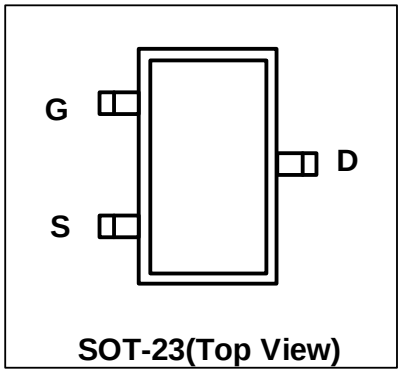
Mechanical Characteristics

- SOT-23 Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Device symbol



SOT-23(Top View)

Absolute Maximum Rating

Rating	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	-1.9	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient(t≤5s)	$R_{\theta JA}$	357	℃/W
Operating Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	–55 to 150	℃

Electrical Characteristics (T_{amb}=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=-250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V	-	-	-1	μA
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V	-	-	±100	nA
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS}= $V_{GS,}$ I_D=-250μA	-1.0	-	-3.0	V
Drain-Source On-State Resistance[1]	$R_{DS(on)}$	V_{GS}=-10V, I_D=-1.9A	-	90	190	mΩ
		V_{GS}=-4.5V, I_D=-1.4A	-	135	330	
Forward Transconductance[1]	g_{fs}	V_{DS}=-5V, I_D=-1.9A	-	4.6	-	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS} =0V ,V_{DS} =-15V, f=1.0MHz	-	260	-	pF
Output Capacitance	C_{oss}		-	34	-	
Reverse Transfer Capacitance	C_{rss}		-	22	-	
Switching Characteristics						
Total Gate Charge[2]	Q_g	V_{GS}=-4.5V ,V_{DS}=-15V, I_D=-1.9A	-	2.5	-	nC
Gate-Source Charge[2]	Q_{gs}		-	0.65	-	
Gate-Drain Charge[2]	Q_{gd}		-	2	-	
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS}=-15V, V_{GS}=-10V, R_L=10Ω, R_{GEN}=1Ω,I_D=-1.5A	-	4.5	-	ns
Rise Time[2]	t_r		-	11.5	-	
Turn-Off Delay Time[2]	$t_{d(off)}$		-	12	-	
Fall Time[2]	t_f		-	8.5	-	
Drain-Source Body Diode Characteristics						
Body Diode Voltage	V_{SD}	V_{GS}=0V ,I_F= -1.9A	-	-	-1.2	V

Notes：1. Pulse Test: Pulse width≤300μs, duty cycle≤2%.

2. Guaranteed by design, not subject to production testing.

Typical Characteristics

Figure 1. Output Characteristics

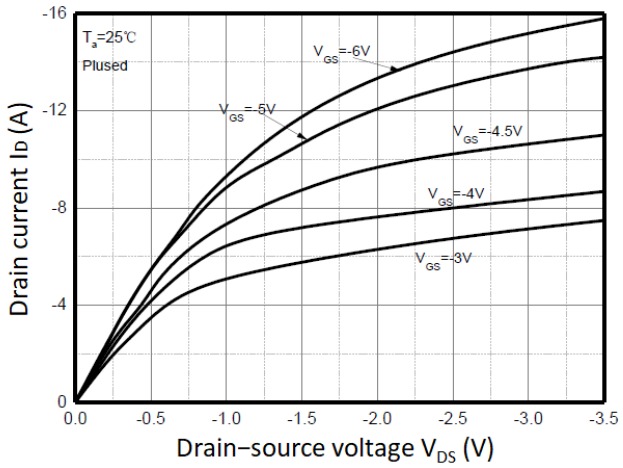


Figure 2. Transfer Characteristics

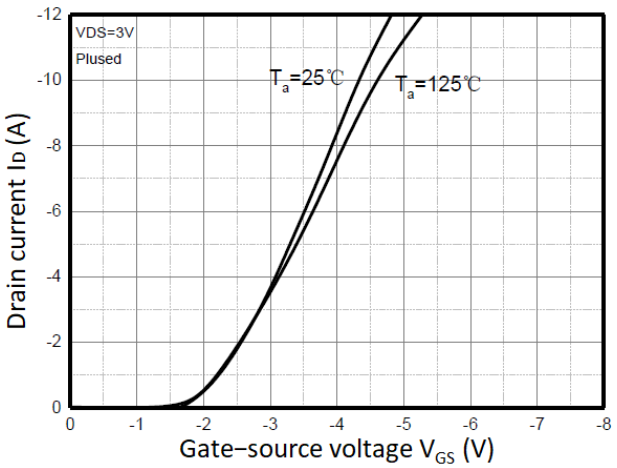


Figure 3. $R_{DS(ON)}$ vs. I_D

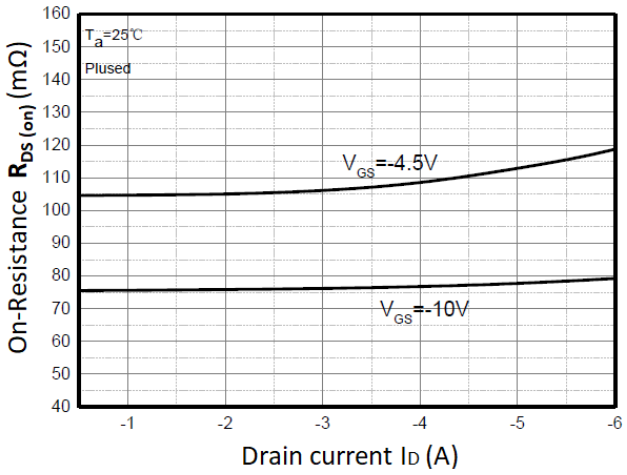


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

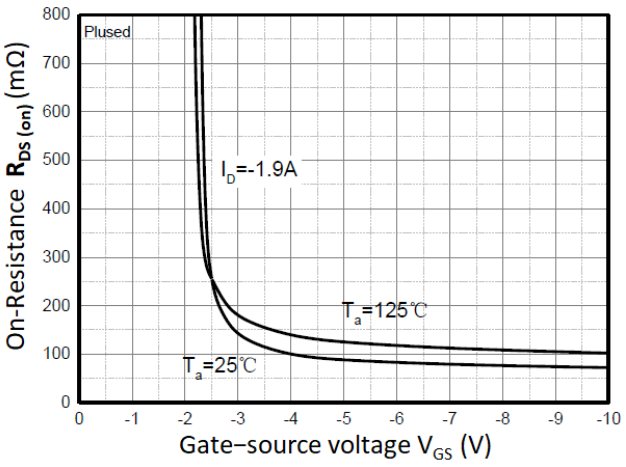


Figure 5. I_S vs. V_{SD}

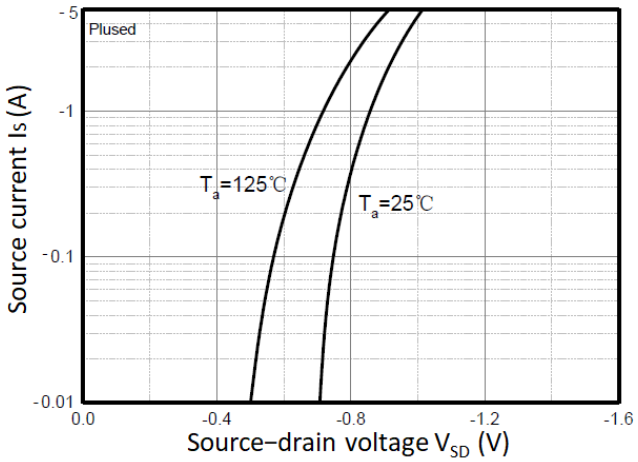
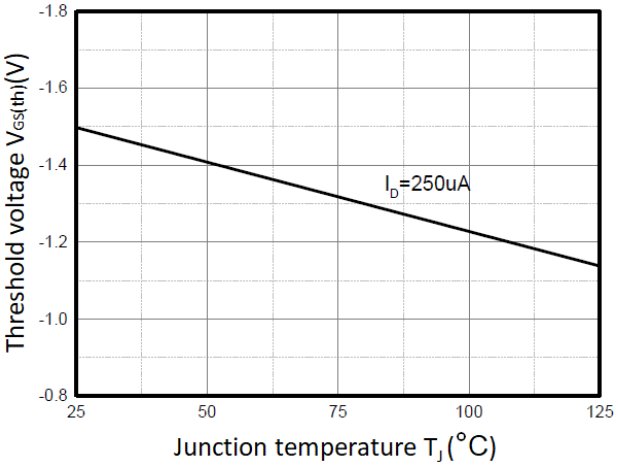
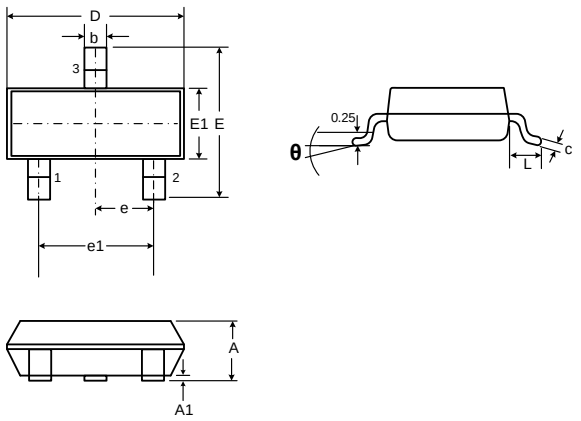


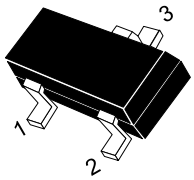
Figure 6. Threshold Voltage vs.T_J



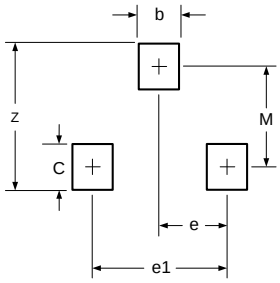
Outline Drawing – SOT-23

PACKAGE OUTLINE





DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
b	0.30	0.50	0.012	0.020
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
E	2.25	2.55	0.089	0.100
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.0374 BSC	
e1	1.80	2.00	0.071	0.079
L	0.45	0.65	0.018	0.026
θ	0	8°	0	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.080	2.02
C	0.032	0.80
Z	0.111	2.82
e	0.037 BSC	0.95 BSC
e1	0.075 BSC	1.90 BSC
b	0.032	0.80

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WM03P19M
Marking Code	S3

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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