

1.Features

- $V_{DS(V)}=60V$
- $I_D=3A(V_{GS}=10V)$
- $R_{DS(ON)}<80m\Omega(V_{GS}=10V), I_D=3A$
- $R_{DS(ON)}<95m\Omega(V_{GS}=4.5V), I_D=1.9A$

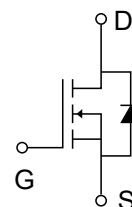
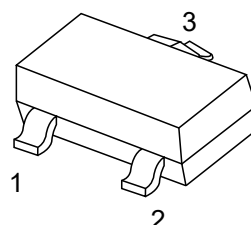
2.Applications

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift
- Battery Management for Ultra Small Portable

3.Pinning information

Pin	Symbol	Description
1	G	GATE
2	S	SOURCE
3	D	DRAIN

SOT-23



4.Absolute Maximum Ratings $T_A=25^{\circ}C$

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_A=25^{\circ}C$	I_D	3	A
	$T_A=70^{\circ}C$		1.9	
Pulsed Drain Current		I_{DM}	10	
Power Dissipation	$T_A=25^{\circ}C$	P_D	1.25	W
	$T_A=70^{\circ}C$		0.8	
Thermal Resistance.Junction- to-Ambient	(Note.1)	R_{thJA}	100	$^{\circ}C/W$
	(Note.2)		166	
Junction Temperature		T_J	150	$^{\circ}C$
Storage Temperature Range		T_{STG}	-55 to 150	

Note.1: Surface Mounted on FR4 Board, $t \leq 5$ sec.

Note.2: Surface Mounted on FR4 Board



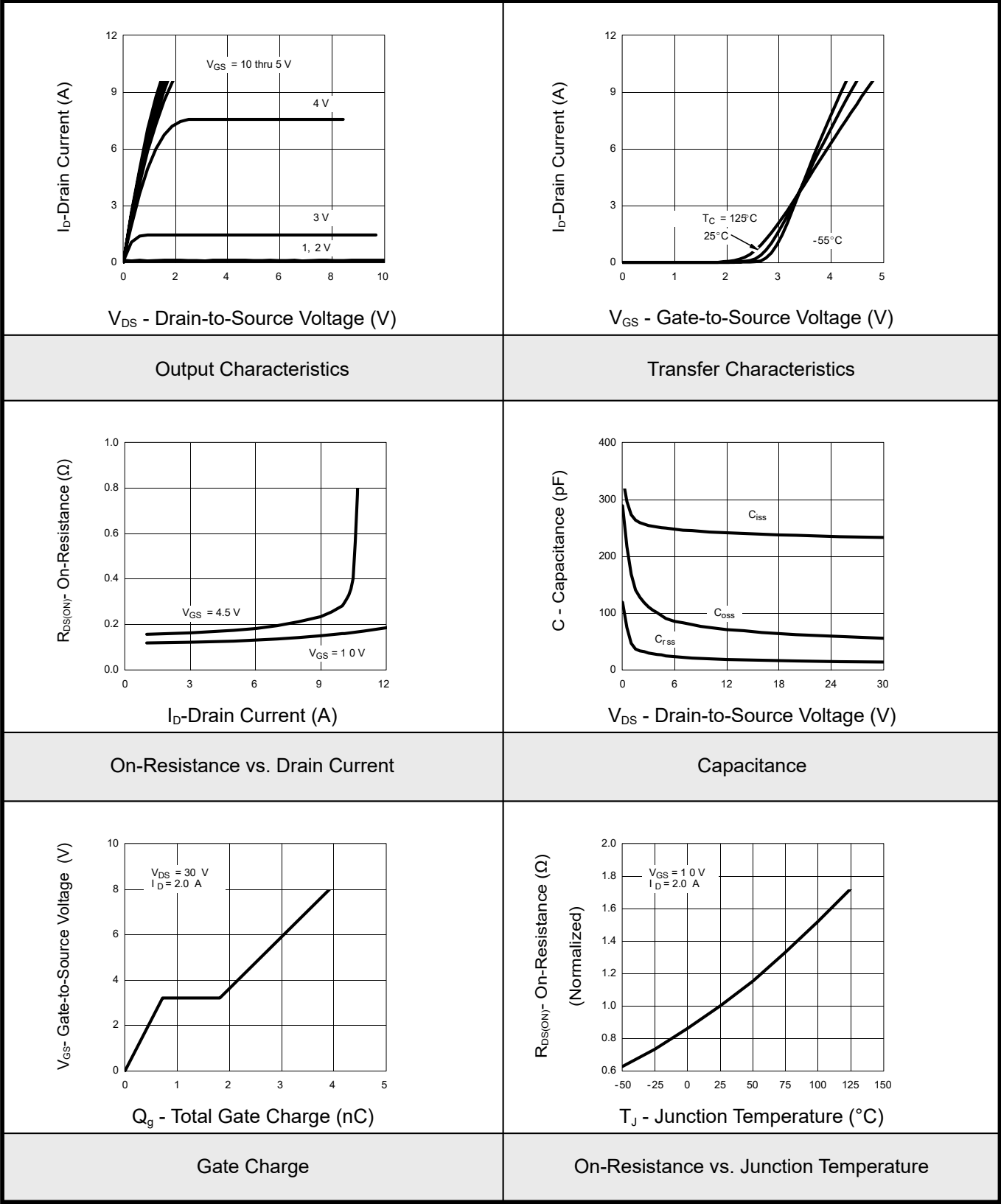
5. Electrical Characteristics $T_A = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{DSS}	$I_D=250\mu\text{A}$, $V_{GS}=0\text{V}$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}$, $V_{GS}=0\text{V}$			0.5	μA
		$V_{DS}=60\text{V}$, $V_{GS}=0\text{V}$, $T_J=55^\circ\text{C}$			10	
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=250\mu\text{A}$	1		3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=3\text{A}$			80	m Ω
		$V_{GS}=4.5\text{V}$, $I_D=1.9\text{A}$			95	
On state drain current	$I_{D(on)}$	$V_{GS}\geq 4.5\text{V}$, $V_{DS}=10\text{A}$	6			A
		$V_{DS}\geq 4.5\text{V}$, $V_{DS}=4.5\text{A}$	4			A
Forward Transconductance	g_{FS}	$V_{DS}=4.5\text{A}$, $I_D=2\text{A}$		4.6		S
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$, $V_{DS}=25\text{V}$, $f=1\text{MHz}$		240		pF
Output Capacitance	C_{oss}			50		
Reverse Transfer Capacitance	C_{rss}			15		
Gate Resistance	R_g	$V_{DS}=25\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	0.5		3.3	Ω
Total Gate Charge	Q_g	$V_{DS}=30\text{V}$, $V_{GS}=10\text{V}$, $I_D=2\text{A}$		4.8	10	nC
Gate Source Charge	Q_{gs}			0.8		
Gate Drain Charge	Q_{gd}			1		
Turn-On DelayTime	$t_{D(on)}$	$V_{GS}=4.5\text{V}$, $V_{DS}=30\text{V}$ $R_L=30\Omega$, $R_G=6\Omega$ $I_D=1\text{A}$		7	15	ns
Turn-On Rise Time	t_r			10	20	
Turn-Off DelayTime	$t_{D(off)}$			17	35	
Turn-Off Fall Time	t_f			6	15	
Maximum Body-Diode Continuous Current	I_S				1	A
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}$, $V_{GS}=0\text{V}$			1.2	V

Note: Pulse test; pulse width $\leq 300\text{ us}$, duty cycle $\leq 2\%$.

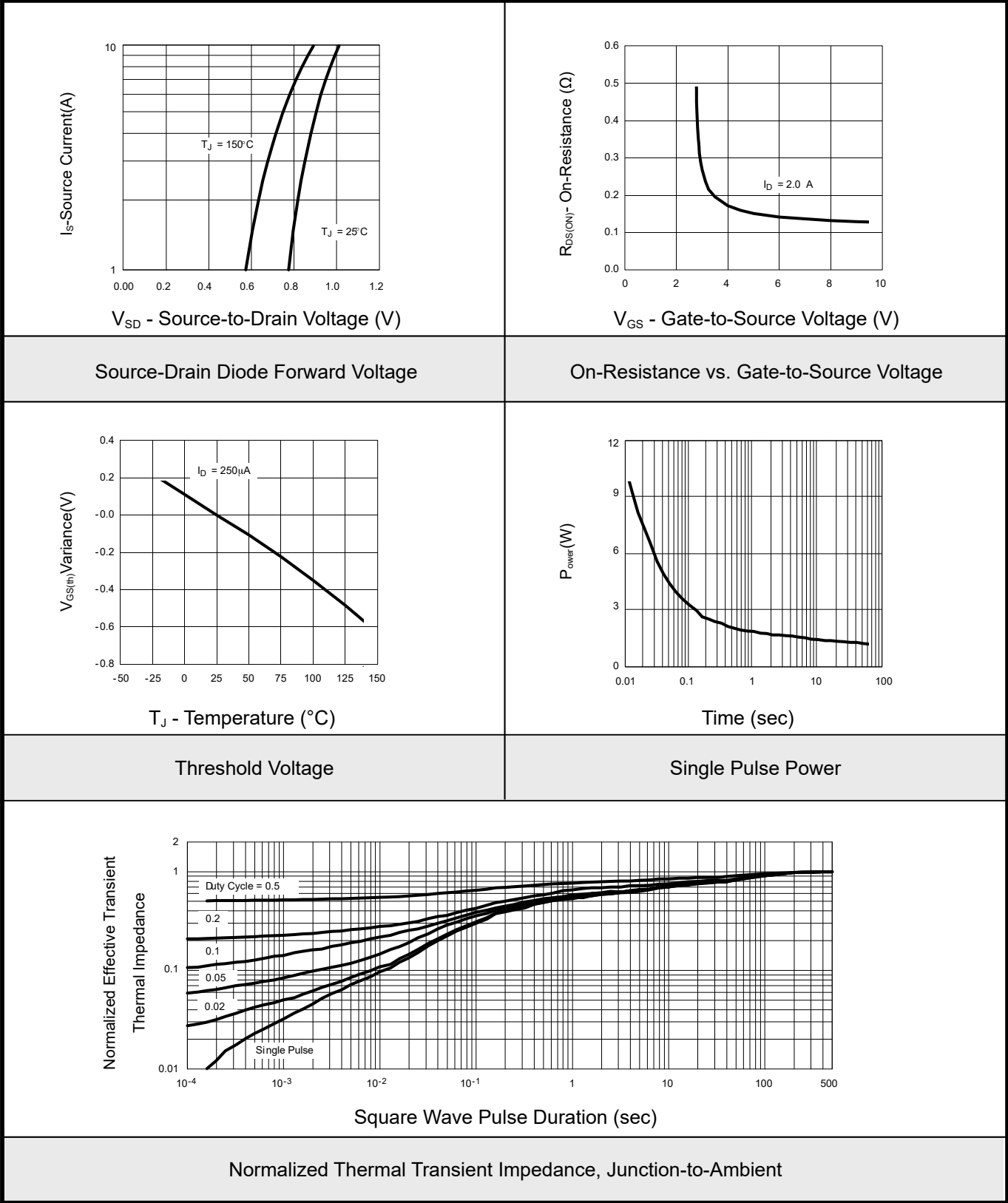


6.1Typical Characteristics



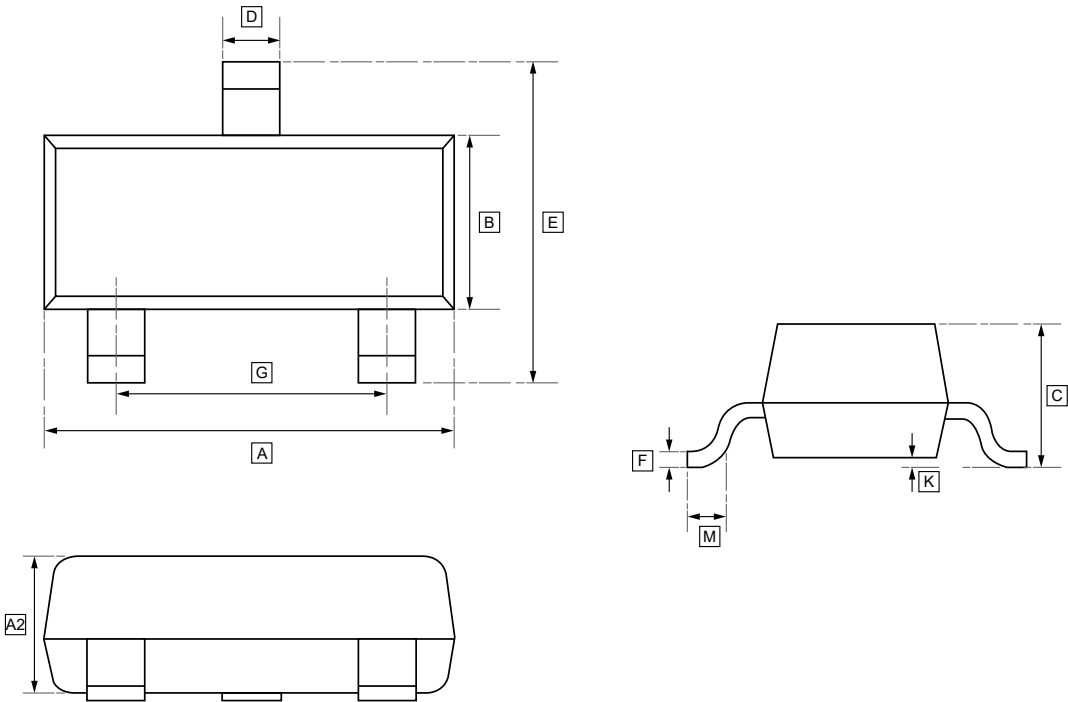


6.2Typical Characterisitics





7.SOT-23 Package Outline Dimensions

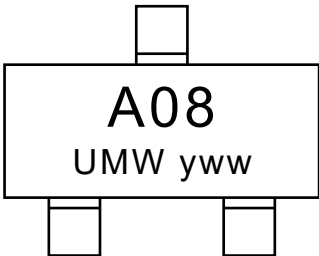


DIMENSIONS (mm are the original dimensions)

Symbol	A	B	C	D	E	G	K	M	A2	F
Min	2.85	1.20	0.90	0.40	2.25	1.80	0.00	0.30	0.95	0.095
Max	3.04	1.40	1.10	0.50	2.55	2.00	0.10	-	1.05	0.115



8.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW SI2308A	SOT-23	3000	Tape and reel



9.Disclaimer

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