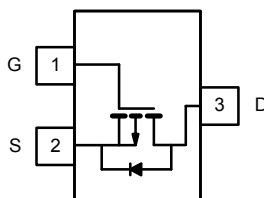
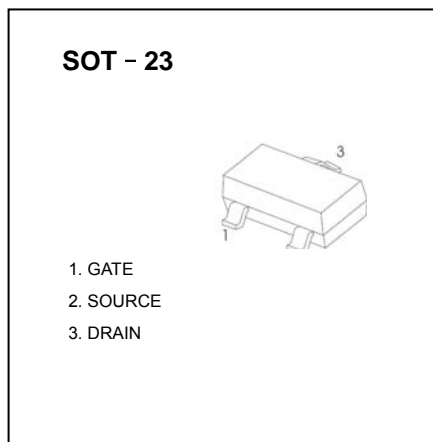


P-Channel Enhancement MOSFET

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -3.0A (V_{GS} = -10V)$
- $R_{DS(ON)} < 50m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 70m\Omega (V_{GS} = -4.5V)$



■ Absolute Maximum Ratings  $T_a = 25^\circ C$

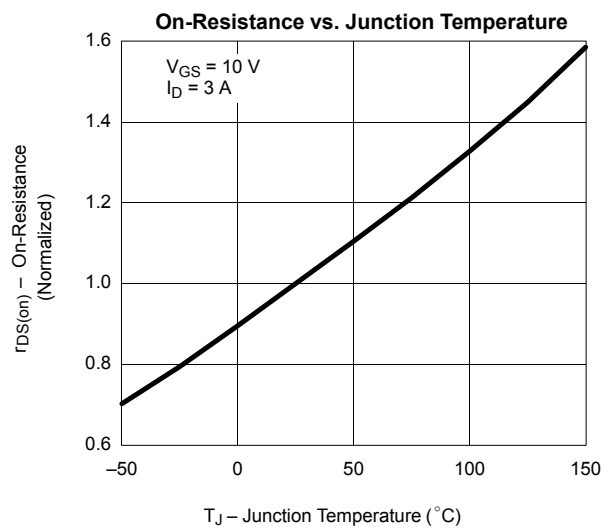
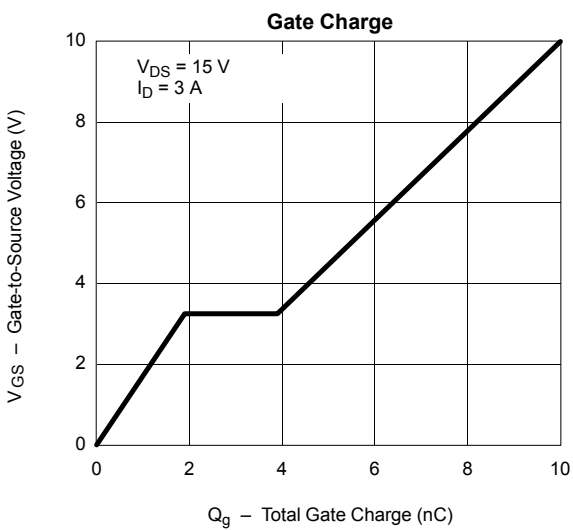
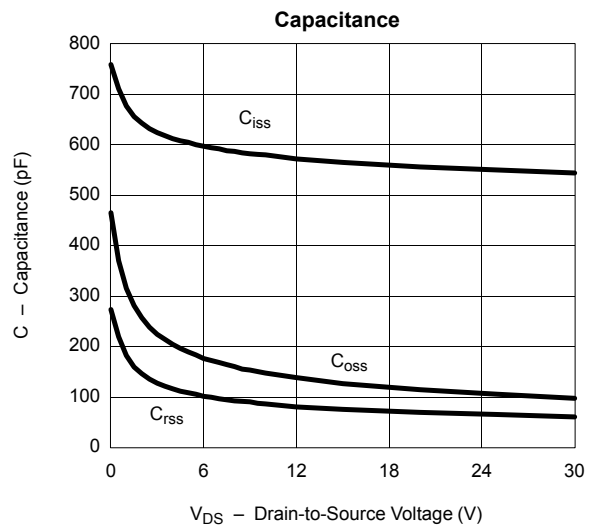
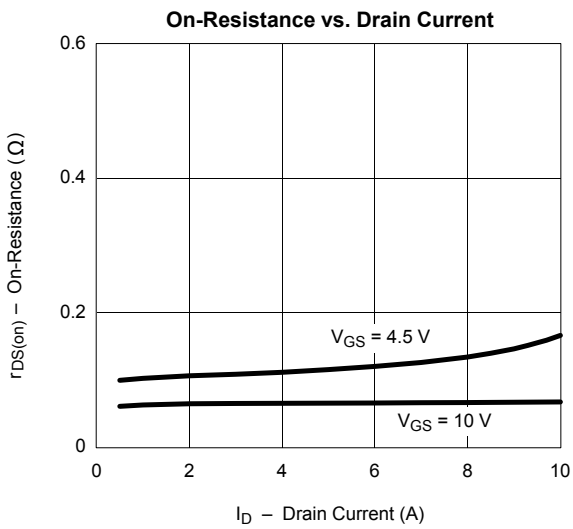
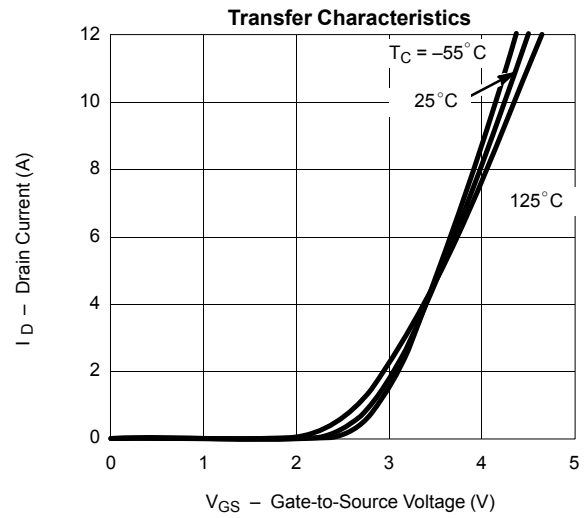
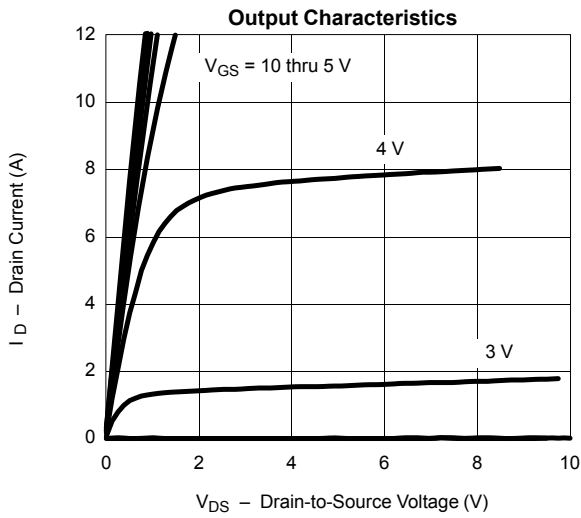
Parameter	Symbol	5 sec	Unit	
Drain-Source Voltage	$V_{DS}$	-30	V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current	$I_D$	$T_a = 25^\circ C$	-3	A
		$T_a = 70^\circ C$	-2.5	
Pulsed Drain Current	$I_{DM}$	-12		
Power Dissipation	$P_D$	$T_a = 25^\circ C$	1.25	W
		$T_a = 70^\circ C$	0.8	
Thermal Resistance, Junction- to-Ambient	$t \leq 10 \text{ sec}$	$R_{thJA}$	100	$^\circ C/W$
Junction Temperature	$T_J$	150	$^\circ C$	
Junction and Storage Temperature Range	$T_{stg}$	-55 to 150		

**P-Channel Enhancement MOSFET**
**■ Electrical Characteristics Ta = 25°C**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =-250μA, V <sub>GS</sub> =0V	-30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>D</sub> =-24V, V <sub>GS</sub> =0V			-1	μA
		V <sub>D</sub> =-24V, V <sub>GS</sub> =0V, T <sub>J</sub> =55°C			-10	
Gate-Body leakage current	I <sub>GSS</sub>	V <sub>D</sub> =0V, V <sub>GS</sub> =±20V			±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>D</sub> =V <sub>GS</sub> I <sub>D</sub> =-250 μA	-1.0		-3.0	V
Static Drain-Source On-Resistance *1	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-3A			50	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-2.5A			70	
On state drain current *1	I <sub>D(ON)</sub>	V <sub>GS</sub> =-10V, V <sub>D</sub> =-5V	-6			A
Forward Transconductance *1	g <sub>FS</sub>	V <sub>D</sub> =-10V, I <sub>D</sub> =-3A		4.5		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>D</sub> =-15V, f=1MHz		565		pF
Output Capacitance	C <sub>oss</sub>			126		
Reverse Transfer Capacitance	C <sub>rss</sub>			75		
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =-15V, V <sub>D</sub> =-15V, I <sub>D</sub> =-3A		10	15	nC
Gate Source Charge	Q <sub>gs</sub>			1.9		
Gate Drain Charge	Q <sub>gd</sub>			2		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>GS</sub> =-10V, V <sub>D</sub> =-15V, R <sub>L</sub> =15Ω, R <sub>GEN</sub> =6Ω  I <sub>D</sub> =-1.0A		10	20	ns
Turn-On Rise Time	t <sub>r</sub>			9	20	
Turn-Off DelayTime	t <sub>d(off)</sub>			27	50	
Turn-Off Fall Time	t <sub>f</sub>			7	16	
Maximum Body-Diode Continuous Current	I <sub>S</sub>					
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.25A, V <sub>GS</sub> =0			-1.2	V

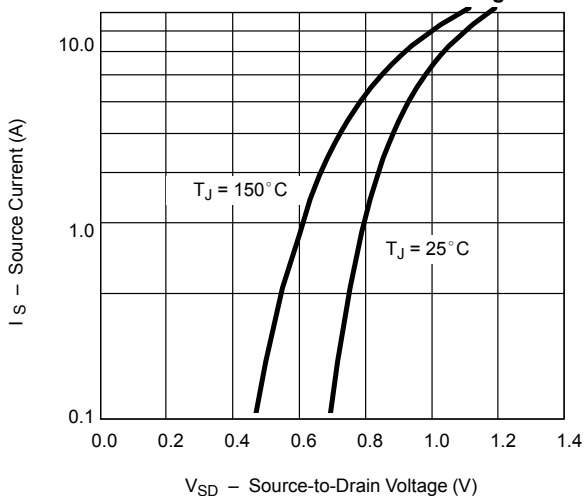
\*1Pulse test: PW ≤ 300us duty cycle ≤ 2%.

■ Typical Characteristics

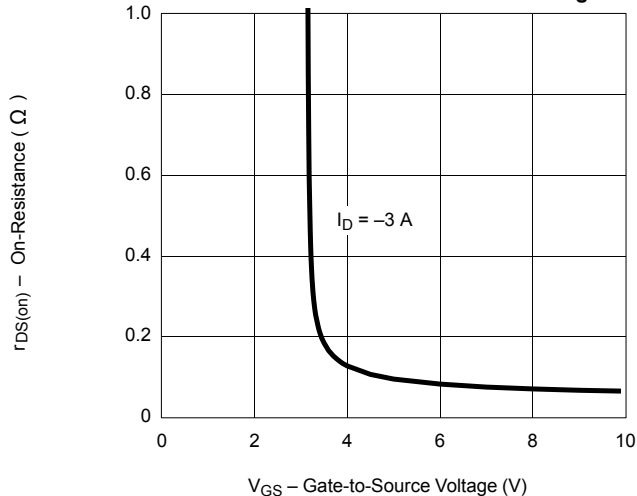


■ Typical Characteristics

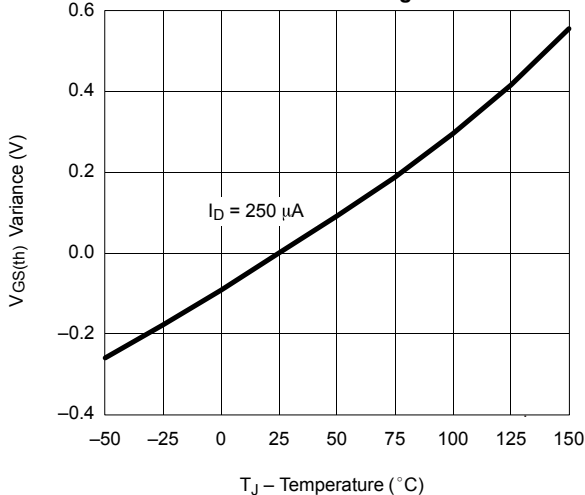
Source-Drain Diode Forward Voltage



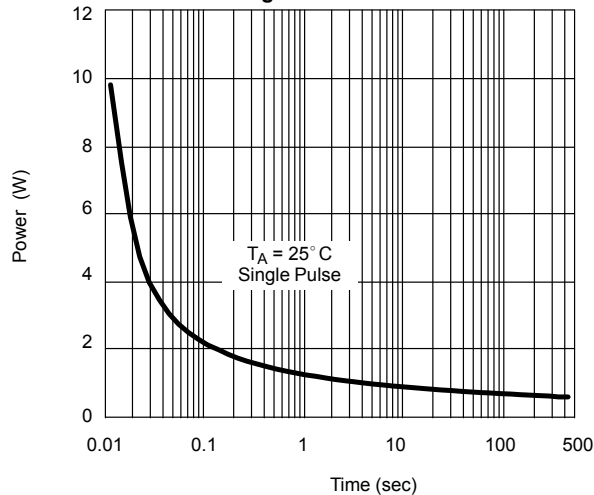
On-Resistance vs. Gate-to-Source Voltage



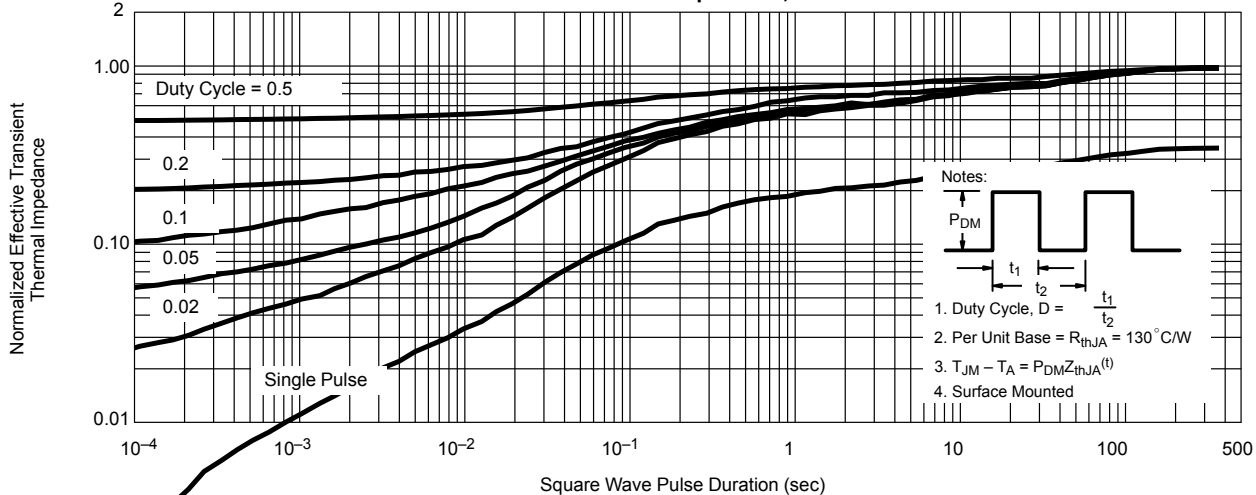
Threshold Voltage



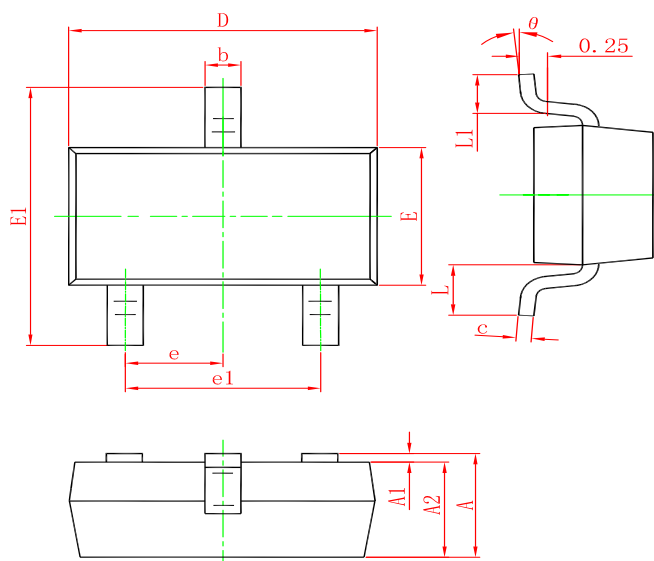
Single Pulse Power



Normalized Thermal Transient Impedance, Junction-to-Ambient

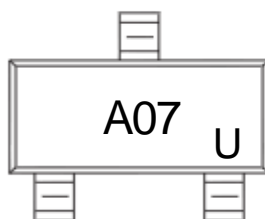


SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
UMW SI2307A	SOT-23	3000	Tape and reel