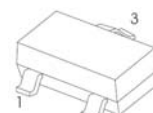


P-Channel Enhancement MOSFET

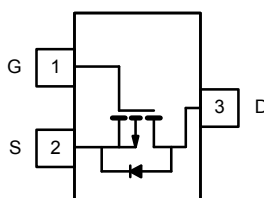
■ Features

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

SOT - 23



1. GATE
2. SOURCE
3. DRAIN



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

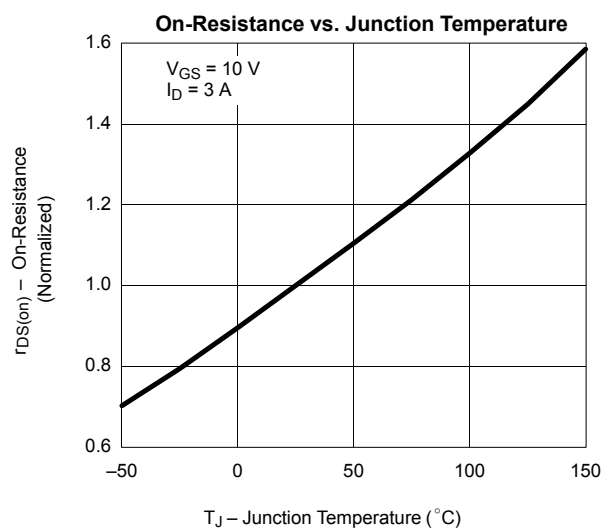
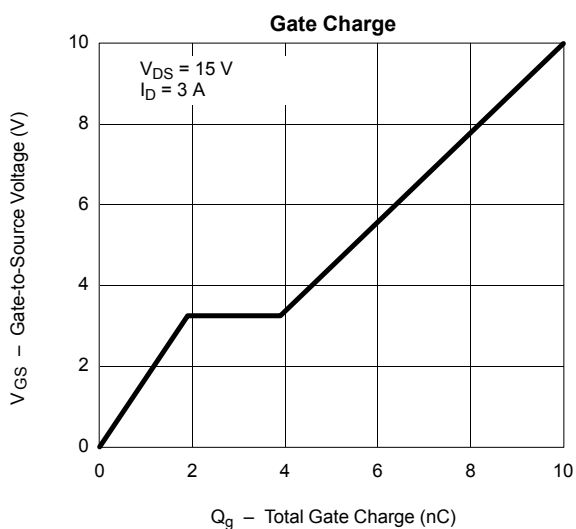
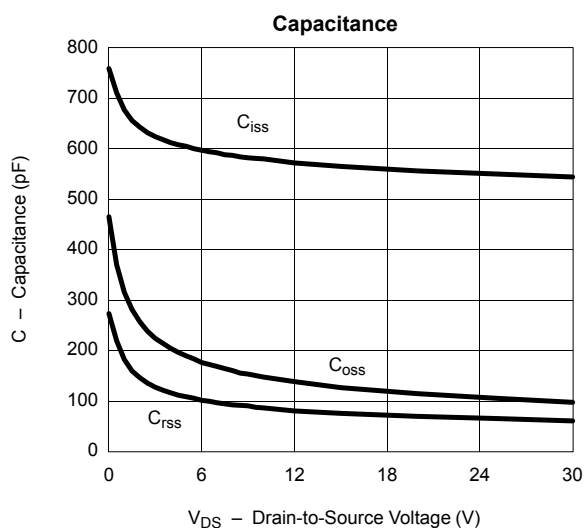
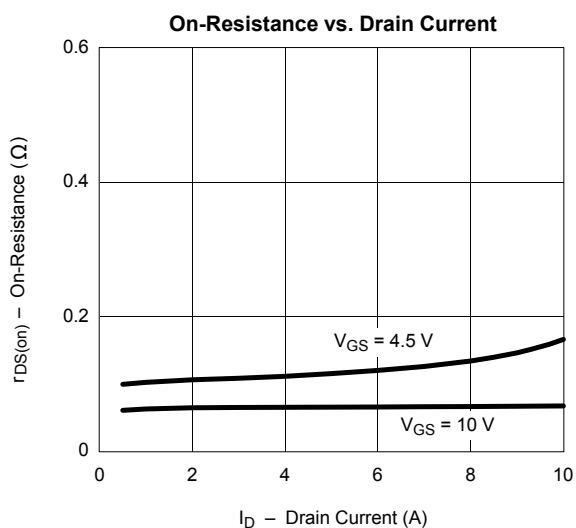
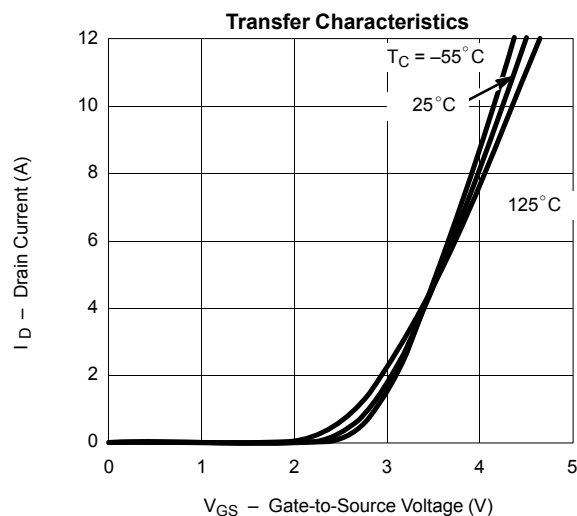
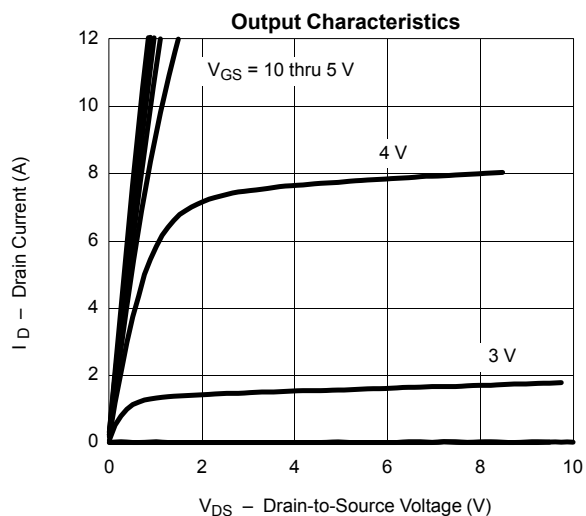
Parameter		Symbol	5 sec	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_a = 25^\circ C$	I_D	-3	A
	$T_a = 70^\circ C$		-2.5	
Pulsed Drain Current		I_{DM}	-12	
Power Dissipation	$T_a = 25^\circ C$	P_D	1.25	W
	$T_a = 70^\circ C$		0.8	
Thermal Resistance, Junction- to-Ambient	$t \leq 10$ 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_{DS}	$I_D = -250\mu A, V_{GS} = 0V$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
		$V_{DS} = -24V, V_{GS} = 0V, T_J = 55^\circ C$			-10	
Gate-Body leakage current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.0		-3.0	V
Static Drain-Source On-Resistance *1	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -3A$			50	m Ω
		$V_{GS} = -4.5V, I_D = -2.5A$			70	
On state drain current *1	$I_{D(on)}$	$V_{GS} = -10V, V_{DS} = -5V$	-6			A
Forward Transconductance *1	g_{FS}	$V_{DS} = -10V, I_D = -3A$		4.5		S
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		565		pF
Output Capacitance	C_{oss}			126		
Reverse Transfer Capacitance	C_{rss}			75		
Total Gate Charge	Q_g	$V_{GS} = -15V, V_{DS} = -15V, I_D = -3A$		10	15	nC
Gate Source Charge	Q_{gs}			1.9		
Gate Drain Charge	Q_{gd}			2		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V, R_L = 15\Omega, R_{GEN} = 6\Omega$ $I_D = -1.0A$		10	20	ns
Turn-On Rise Time	t_r			9	20	
Turn-Off DelayTime	$t_{d(off)}$			27	50	
Turn-Off Fall Time	t_f			7	16	
Maximum Body-Diode Continuous Current	I_S				-1.25	A
Diode Forward Voltage	V_{SD}	$I_S = -1.25A, V_{GS} = 0$			-1.2	V

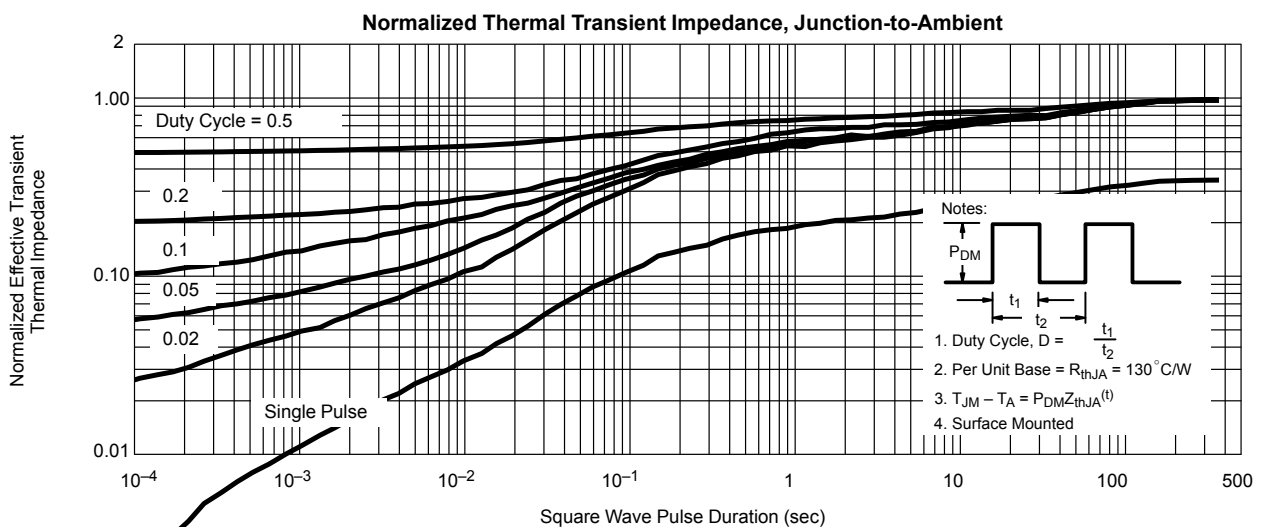
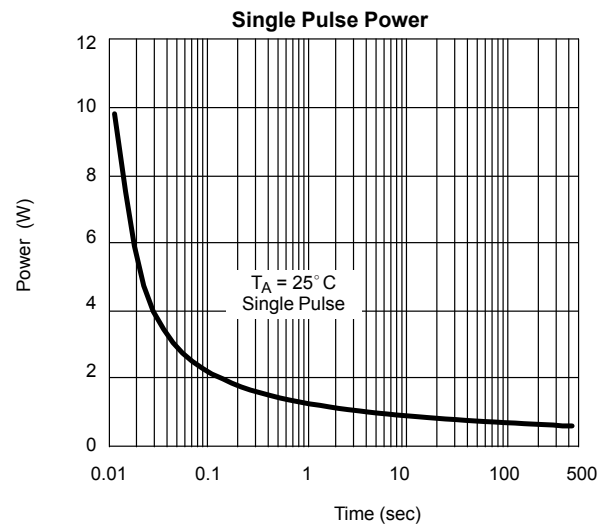
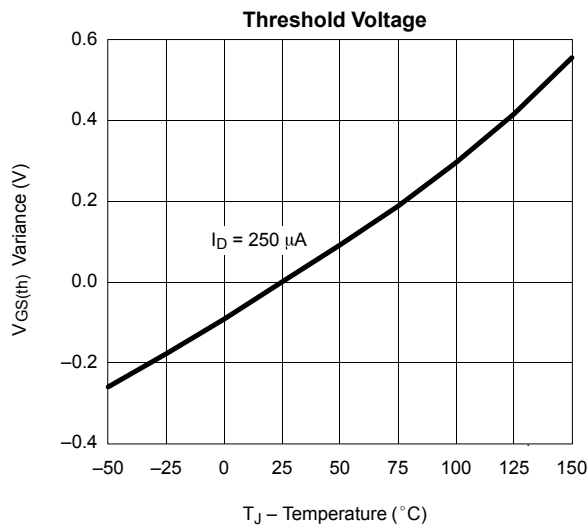
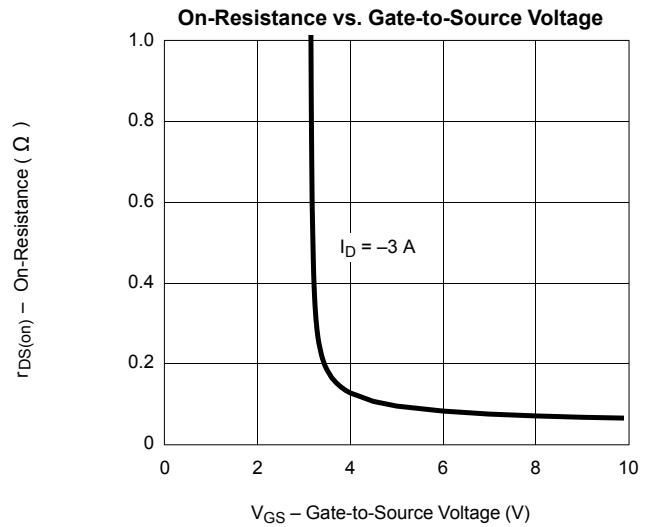
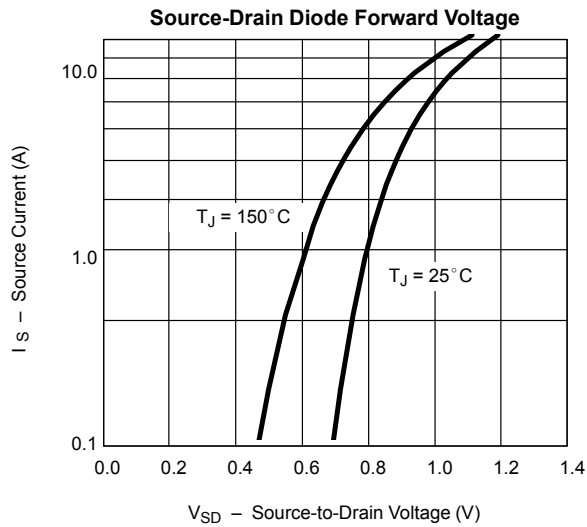
*1Pulse test: $PW \leq 300\mu s$ duty cycle $\leq 2\%$.

■ Typical Characteristics

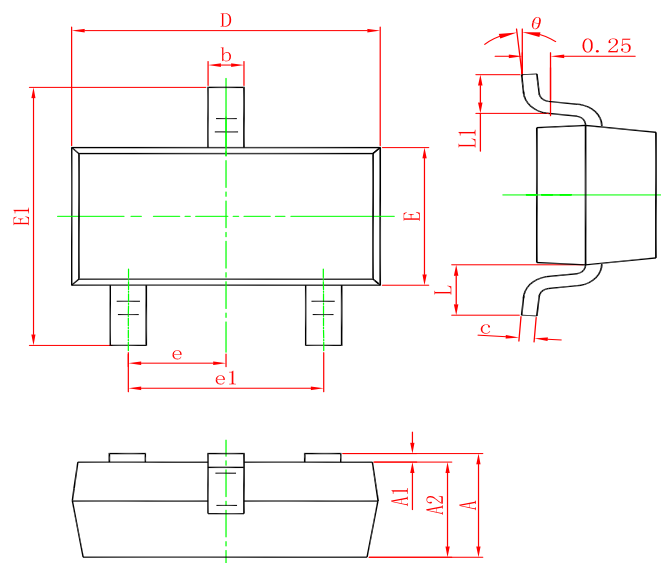


P-Channel Enhancement MOSFET

Typical Characteristics

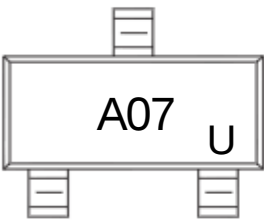


SOT-23 PACKAGE OUTLINE DIMENSIONS



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
SI2307A	SOT-23	3000	Tape and reel