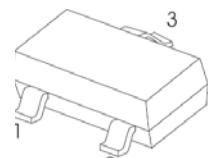


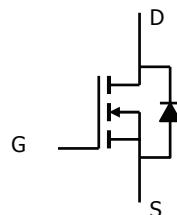
■ Features

- $V_{DS} (V) = 30V$
- $R_{DS(ON)} < 35m\Omega$ ($V_{GS} = -10V$), $I_D = 4A$
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} = -4.5V$), $I_D = 3.5A$

SOT - 23



1. GATE
2. SOURCE
3. DRAIN



■ Absolute Maximum Ratings $T_a = 25$

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current $T_j=150^\circ C$ *1	$T_a=25^\circ C$	I_D	4	A
	$T_a=70^\circ C$		3.5	
Pulsed Drain Current		I_{DM}	16	
Power Dissipation *1	$T_a=25^\circ C$	P_D	1.25	W
	$T_a=70^\circ C$		0.8	
Thermal Resistance.Junction- to-Ambient	$t \leq 5 \text{ sec}$	R_{thJA}	100	°C/W
	Steady State		130	
Junction Temperature		T_J	150	°C
Storage Temperature Range		T_{stg}	-55 to 150	

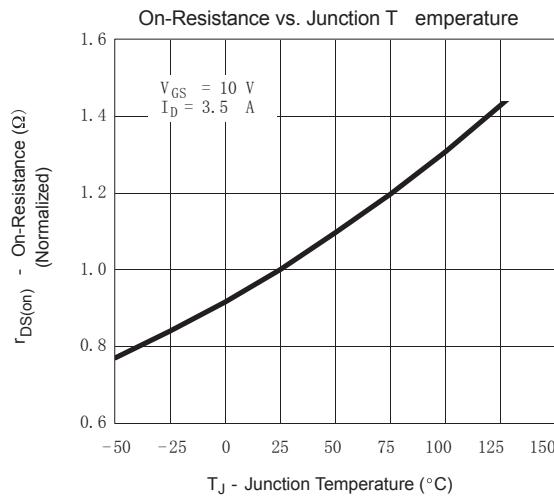
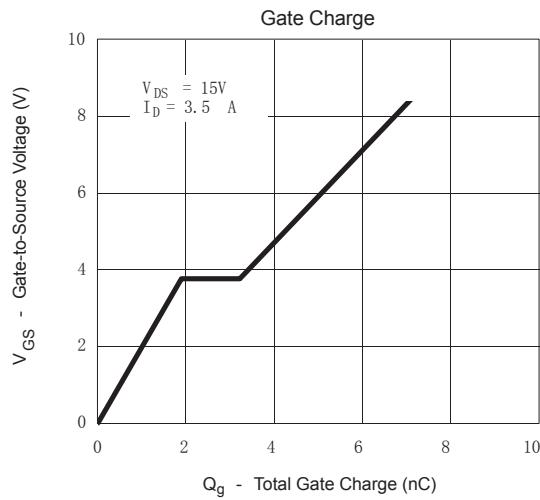
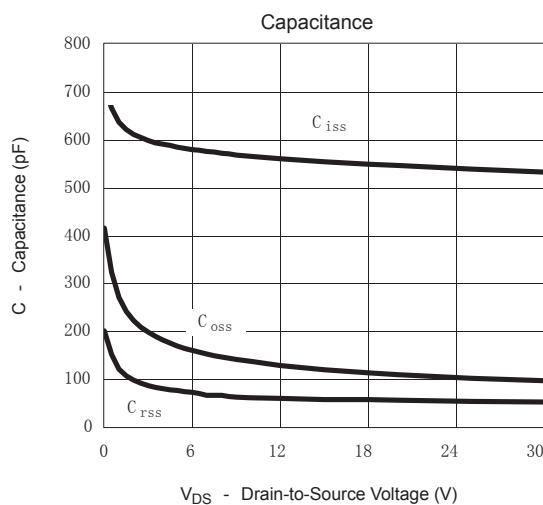
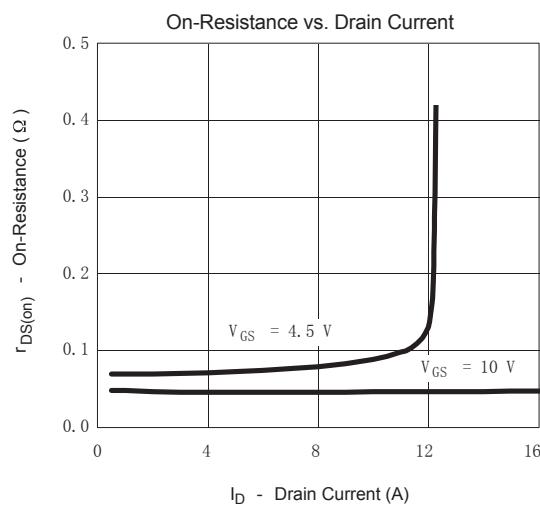
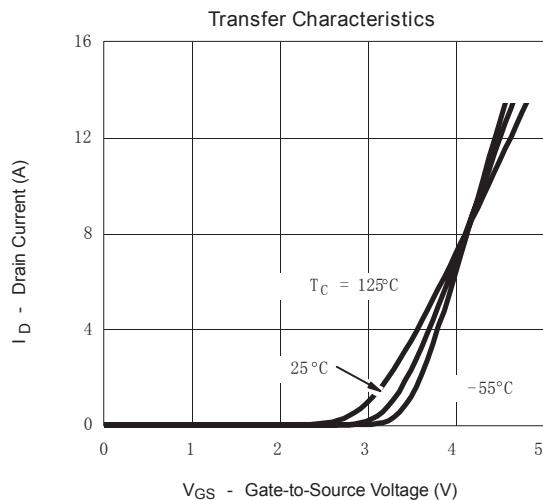
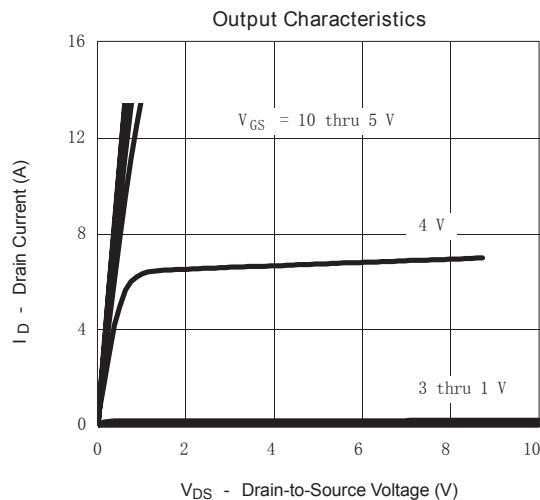
*1.Surface Mounted on FR4 Board,. $t \leq 5 \text{ sec}$

■ Electrical Characteristics Ta = 25°C

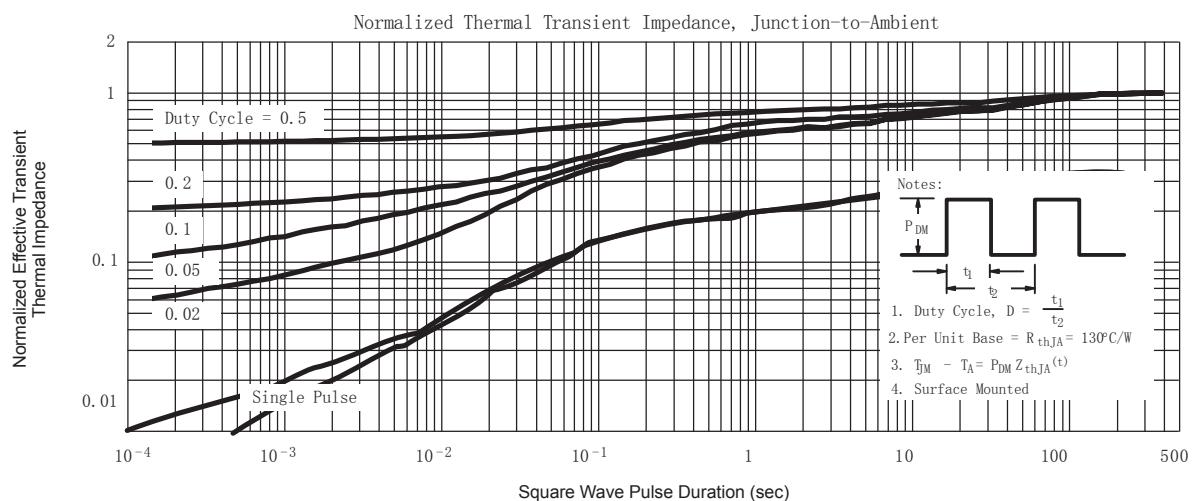
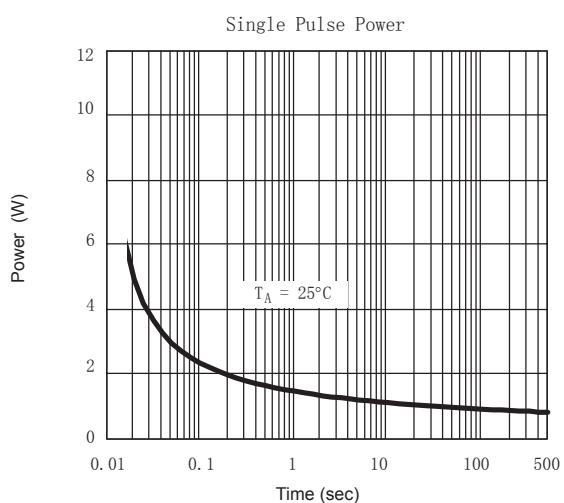
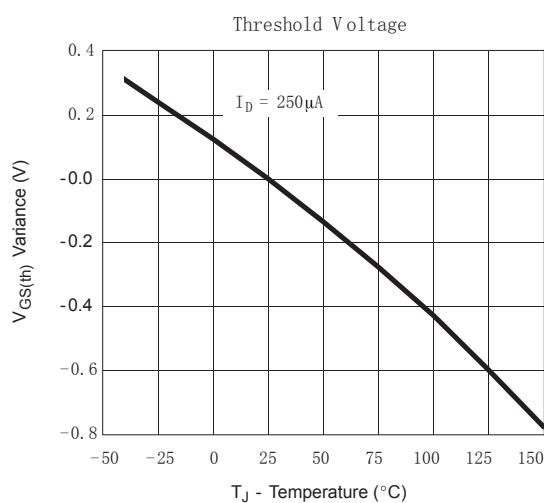
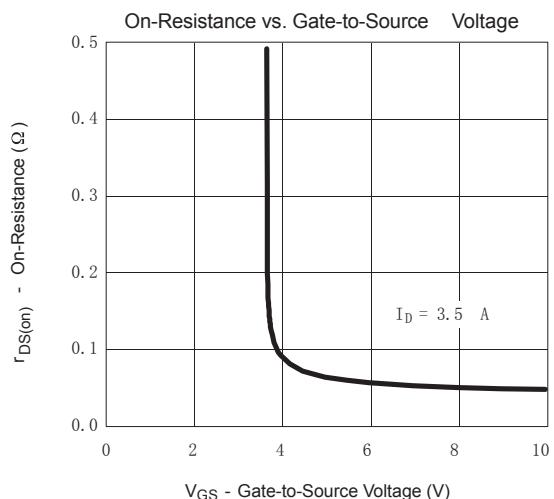
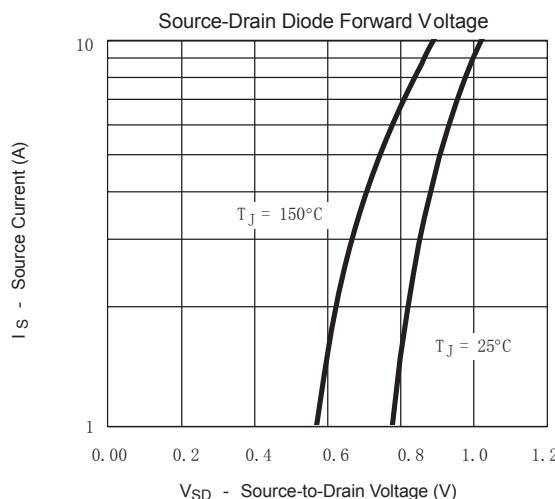
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V(BR)DSS	VGS = 0 V, Id = 250 uA	30			V
Gate threshold voltage	VGS(th)		1		3	
Gate-body leakage	IGSS	VDS = 0 V, VGS = ± 20 V			±100	nA
Zero gate voltage drain current	IDSS	VDS = 30V, VGS = 0 V			0.5	uA
		VDS = 30V, VGS = 0 V, TJ = 55 °C			10	
On-state drain current	ID(on)	VDS ≥ 4.5 V, VGS = 10 V	6			A
		VDS ≥ 4.5 V, VGS = 4.5 V	4			
Drain-source on-state resistance	rDS(on)	VGS = 10 V, ID= 4 A			35	mΩ
		VGS = 4.5 V, ID = 3.5A			50	
Forward transconductance	gfs	VDS = 4.5 V, ID = 3.5 A		6.9		S
Diode forward voltage	VSD	Is = 1.25 A, VGS = 0 V		0.8	1.2	V
gate charge *	Qg	VDS = 15V ,VGS = 5V , Id= 3.5 A		4.2	7	nC
Total gate charge *	Qgt			8.5	20	nC
Gate-source charge *	Qgs			1.9		
Gate-drain charge *	Qgd			1.35		
Gate Resistance	Rg		0.5		2.4	Ω
Input capacitance *	Ciss	VDS = 15V ,VGS = 0 , f = 1 MHz		555		pF
Output capacitance *	Coss			120		
Reverse transfer capacitance *	Crss			60		
Turn-on time	td(on)	VDD = 15V , RL = 15 Ω, ID = 1A , VGEN = -10V , RG = 6Ω		9	20	ns
	tr			7.5	18	
Turn-off time	td(off)			17	35	
	tf			5.2	12	

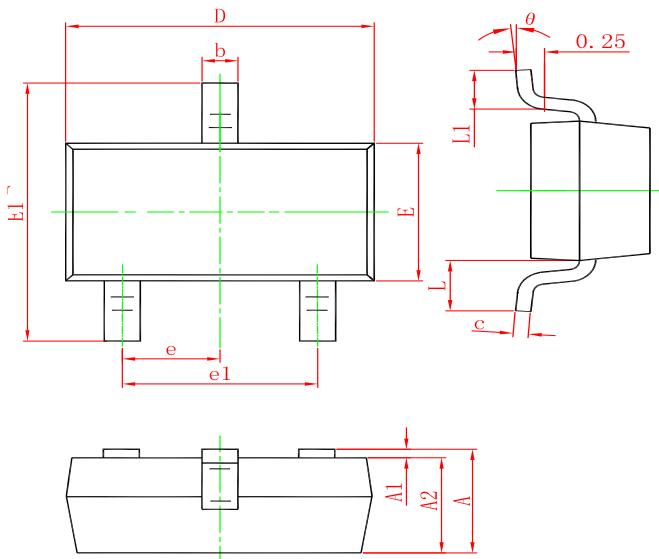
* Pulse test: PW ≤ 300 us duty cycle ≤ 2%.

■ Typical Characteristics



■ 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
SI2306A	SOT-23	3000	Tape and reel