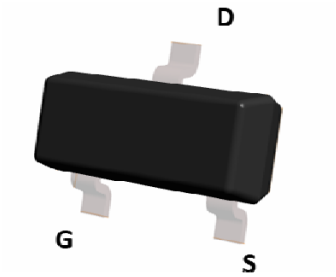
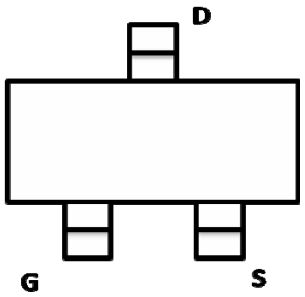
SK2301AAT

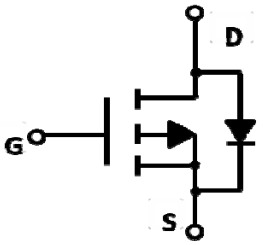
P-Channel Enhancement Mode Field Effect Transistor



Top View

SOT-523





Product Summary

- V_{DS} -20V
- I_D -2.3A
- $R_{DS(ON)}$(at V_{GS}=-4.5V) ＜180 mohm
- $R_{DS(ON)}$(at V_{GS}=-2.5V) ＜250 mohm

General Description

- Trench Power LV MOSFET technology
- Low $R_{DS(ON)}$
- Low Gate Charge

Applications

- Video monitor
- Power management

Marking:S1

■ **Absolute Maximum Ratings** (T_A=25℃unless otherwise noted)

Parameter		Symbol	Maximum	Unit
Drain-source Voltage		V_{DS}	-20	V
Gate-source Voltage		V_{GS}	±10	V
Drain Current	T_A=25℃ @ Steady State	I_D	-2.3	A
	T_A=70℃ @ Steady State		-1.6	
Pulsed Drain Current [A]		I_{DM}	-8	A
Total Power Dissipation @ T_A=25℃		P_D	0.7	W
Thermal Resistance Junction-to-Ambient [B]		$R_{\theta JA}$	178	℃/ W
Junction and Storage Temperature Range		T_J,T_{STG}	-55～+150	℃

■ Electrical Characteristics (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=-250μA	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V,V_{GS}=0V,T_C=25℃			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±10V, V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=-250μA	-0.4	-0.62	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}= -4.5V, I_D=-2.3A		130	180	mΩ
		V_{GS}= -2.5V, I_D=-1.5A		160	250	
		V_{GS}= -1.8V, I_D=-1.5A		210		
Diode Forward Voltage	V_{SD}	I_S=-2.3A,V_{GS}=0V		-0.8	-1.2	V
Maximum Body-Diode Continuous Current	I_S				-2.3	A
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=-10V,V_{GS}=0V,f=1MHZ		290		pF
Output Capacitance	C_{oss}			47		
Reverse Transfer Capacitance	C_{rss}			29		
Switching Parameters						
Total Gate Charge	Q_g	V_{GS}=-4.5V,V_{DS}=-10V,I_D=-2.3A		3.9		nC
Gate Source Charge	Q_{gs}			0.7		
Gate Drain Charge	Q_{gd}			0.9		
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=-4.5V,V_{DD}=-10V, I_D=-1A, R_{GEN}=2.5Ω		12		ns
Turn-on Rise Time	t_r			54		
Turn-off Delay Time	$t_{D(off)}$			15		
Turn-off Fall Time	t_f			9		

A. A.Pulse Test: Pulse Width≤300us,Duty cycle ≤2%.
B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

■ Typical Performance Characteristics

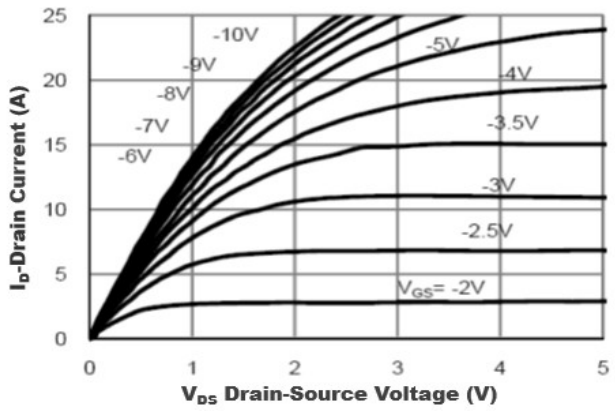


Figure1. Output Characteristics

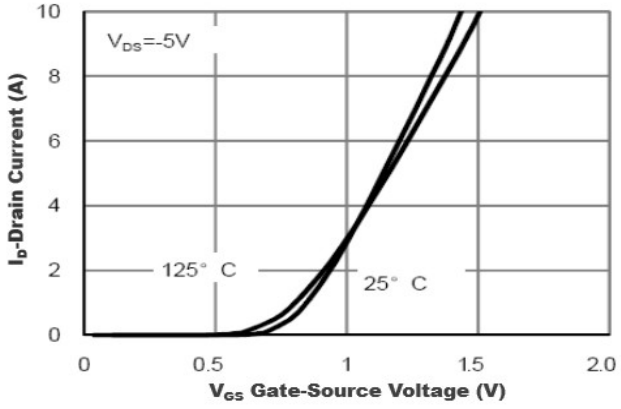


Figure2. Transfer Characteristics

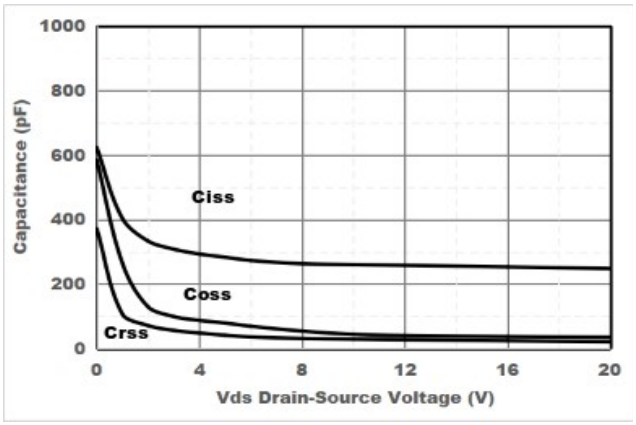


Figure3. Capacitance Characteristics

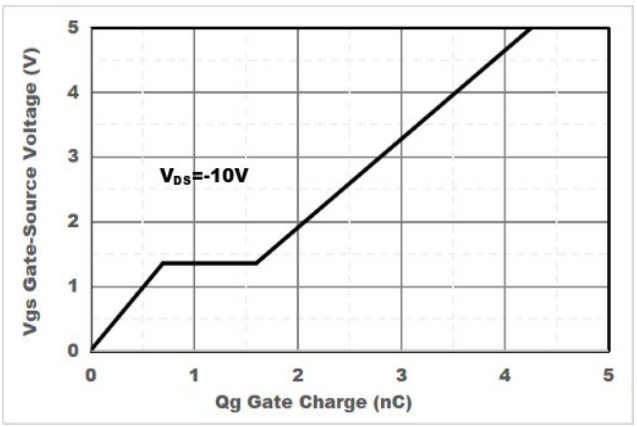


Figure4. Gate Charge

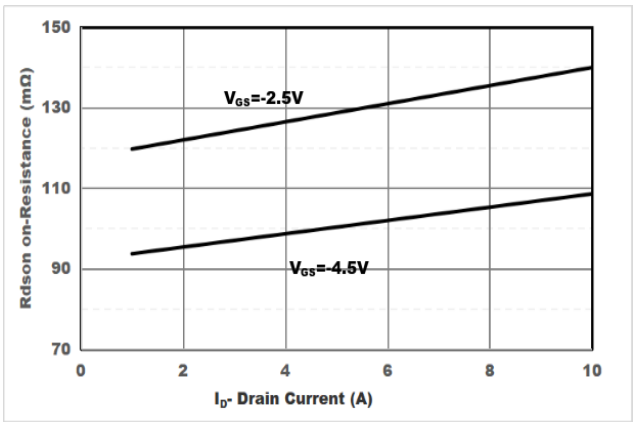


Figure5. Drain-Source on Resistance

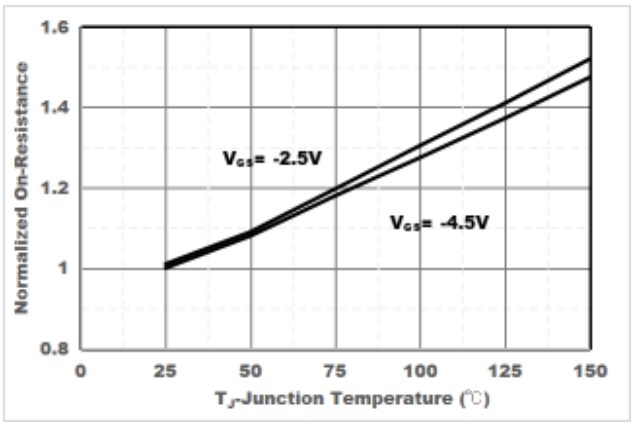


Figure6. Drain-Source on Resistance

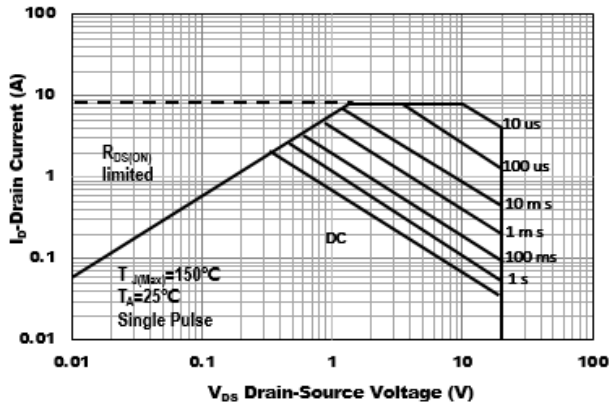


Figure7. Safe Operation Area

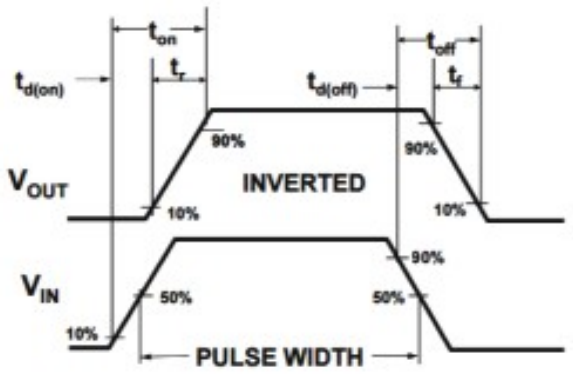
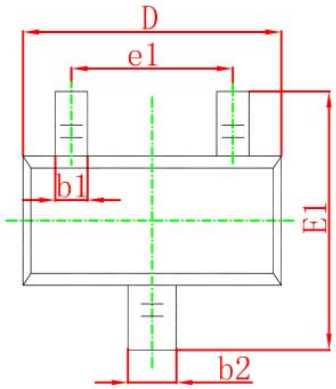
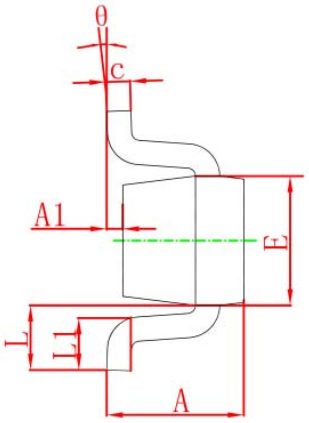
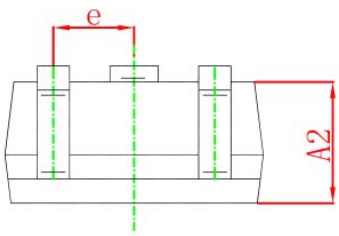


Figure8. Switching wave

■SOT-523 Package Outline Dimensions







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

>>SHIKUES(时科)