WILLAS

RoHS COMPLIANT

SE2321

SOT-23 Plastic-Encapsulate MOSFETS

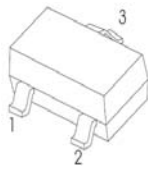
P-Channel 20-V(D-S) MOSFET

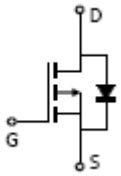
APPLICATIONS

- PA Switch
- Load Switch
- **Pb-Free package is available**
  RoHS product for packing code suffix ”G”
  Halogen free product for packing code suffix “H”

SOT-23

1. GATE
2. SOURCE
3. DRAIN





MARKING: S21

Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±12	
Continuous Drain Current	I_D	-2.9	A
Pulsed Drain Current	I_{DM}	-12	
Continuous Source-Drain Diode Current	I_S	-0.59	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-50 ~+150	

WILLAS

RoHS COMPLIANT

SOT-23 Plastic-Encapsulate MOSFETS

SE2321

Electrical characteristics (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D =-10μA	-20			V
Gate-source leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±12V			±100	nA
Zero Gate voltage drain current	I_{DSS}	V_{DS} =-16V, V_{GS} =0V			-1.0	μA
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4		-0.9	V
Drain-source on-state resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-3.3A			0.057	Ω
		V_{GS} =-2.5V, I_D =-2.8A			0.076	
		V_{GS} =-1.8V, I_D =-2.3A			0.110	
Forward tranconductance	g_{fS}	V_{DS} =-5V, I_D =-3.3A	3			S
Forward diode voltage	V_{SD}	V_{GS} =0V,I_S=-1.6A			-1.2	V
Dynamic						
Input capacitance[a,b]	C_{iss}	V_{DS} =-6V,V_{GS} =0V,f =1MHz		715		pF
Output capacitance[a,b]	C_{oss}			170		
Reverse transfer capacitance[a,b]	C_{rss}			120		
Total Gate charge[a]	Q_g	V_{DS} =-6V,V_{GS} =-4.5V,I_D=-3.3A			13	nc
Gate-Source charge[a]	Q_{gs}			1.2		nc
Gate-Drain charge[a]	Q_{gd}			2.2		nc
Switching[a,b]						
Turn-on delay Time	$t_{d(on)}$	V_{GEN}=-4.5V,V_{DD}=-6V, I_D =-1.0A,R_G=6Ω, R_L=6Ω			25	ns
Rise time	t_r				55	
Turn-off delay time	$t_{d(off)}$				90	
Fall time	t_f				60	

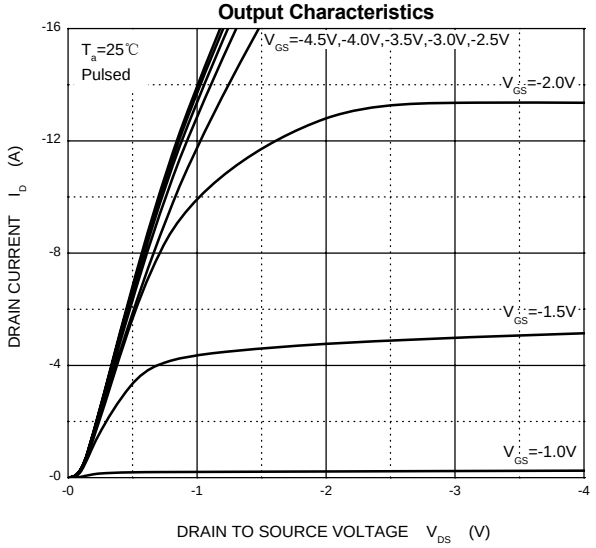
Notes :

a. Pulse Test : pulse width ≤300μs, duty cycle ≤2%.

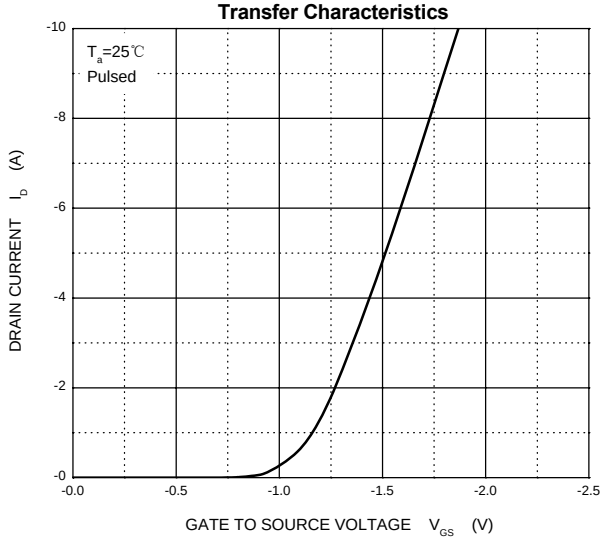
SOT-23 Plastic-Encapsulate MOSFETS

Typical Characteristics

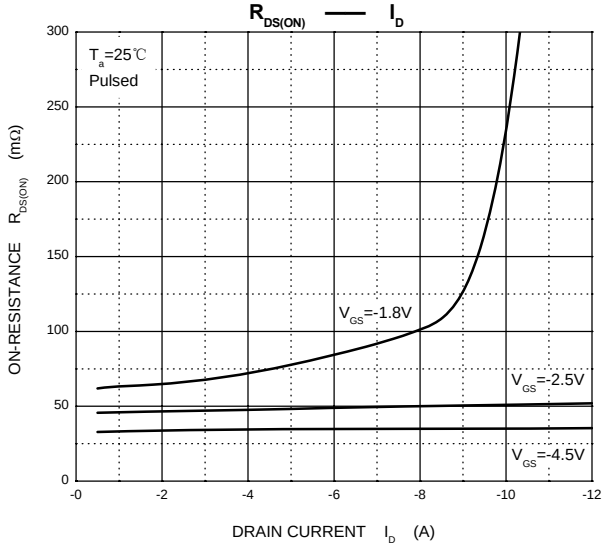
Output Characteristics



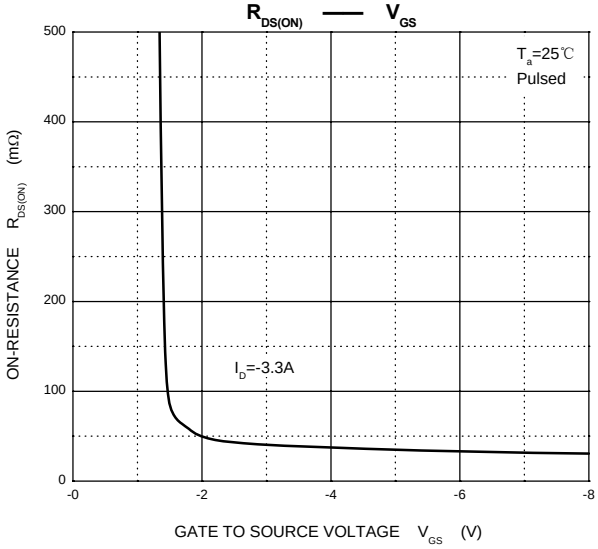
Transfer Characteristics



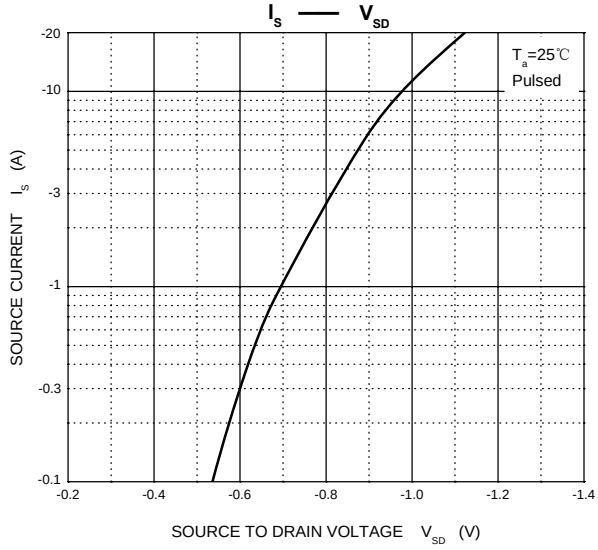
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



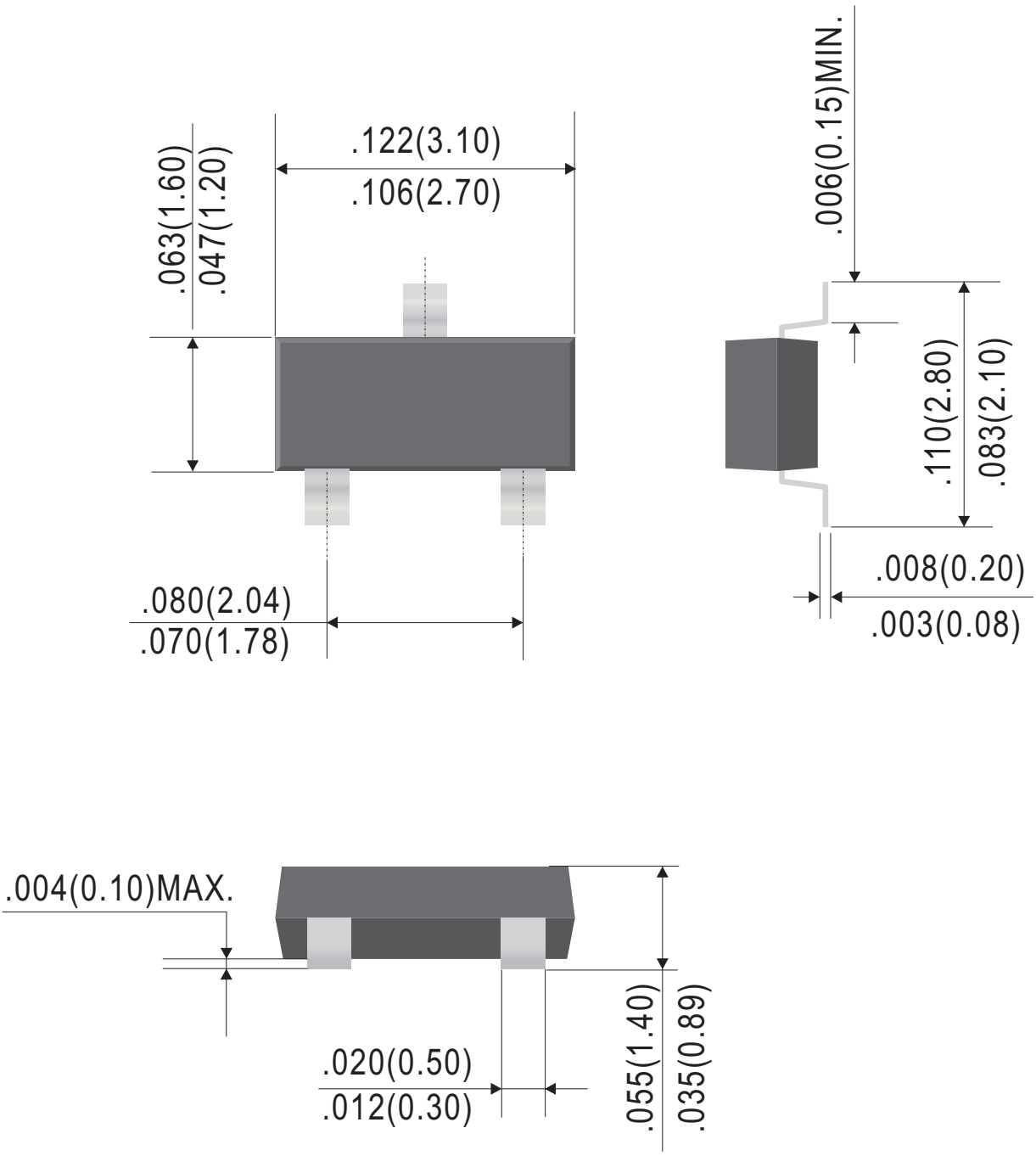
I_S — V_{SD}



SOT-23 Plastic-Encapsulate MOSFETS

Outline Drawing

SOT-23



Dimensions in inches and (millimeters)

Rev.D

WILLAS RoHS COMPLIANT

SOT-23 Plastic-Encapsulate MOSFETS

SE2321

Ordering Information:

Device PN	Packing
SE2321-T(1)G(2)-WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel

(2) RoHS product for packing code suffix "G"；Halogen free product for packing code suffix "H"