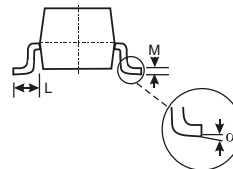
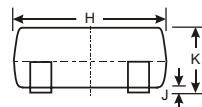
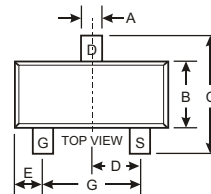


Features

- Super high density cell design for extremely low $R_{DS(ON)}$.
- Exceptional on-resistance and maximum DC current capability.
- We declare that the material of product compliance with RoHS requirements.



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

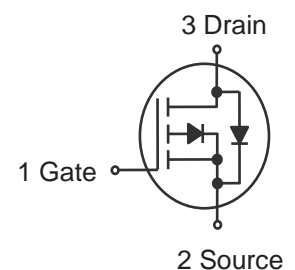
APPLICATIONS

- Power Management in Notebook.
- Portable equipment.
- Battery powered system.
- Load switch.
- Marking Code:S3.

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current	I_D	-1.9	A
Continuous Source-Drain Diode Current	I_S	-0.83	A
Maximum Power Dissipation	P_{tot}	0.35	W
Thermal Resistance from Junction to Ambient (PCB mounted) ¹⁾	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ 1 in² 2oz Cu PCB board.



Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

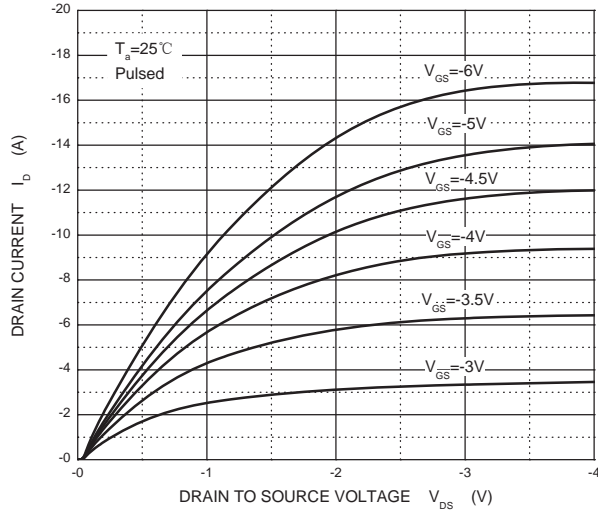
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-30			V
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1	-1.6	-3	
Gate-Source Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Drain-Source On-State Resistance ^a	R _{DS(on)}	V _{GS} =-10V, I _D =-1.9A		0.075	0.190	Ω
		V _{GS} =-4.5V, I _D =-1.4A		0.115	0.330	
Forward Transconductance ^a	g _{fs}	V _{DS} =-5V, I _D =-1.9A	1			S
Dynamic ^b						
Input Capacitance	C _{iss}	V _{DS} =-15V,V _{GS} =0V,f =1MHz		155		pF
Output Capacitance	C _{oss}			35		
Reverse Transfer Capacitance	C _{rss}			25		
Total Gate Charge	Q _g	V _{DS} =-15V,V _{GS} =-10V,I _D =-1.9A		4	8	nC
				2	4	
Gate-Source Charge	Q _{gs}	V _{DS} =-15V,V _{GS} =-4.5V,I _D =-1.9A		0.6		
Gate-Drain Charge	Q _{gd}			1		
Gate Resistance	R _g	f =1MHz	1.7	8.5	17	Ω
Turn-On Delay Time	t _{d(on)}	V _{DD} =-15V, R _L =10Ω, I _D =-1.5A, V _{GEN} =-10V,R _g =1Ω		4	8	ns
Rise Time	t _r			11	18	
Turn-Off Delay Time	t _{d(off)}			11	18	
Fall Time	t _f			8	16	
Turn-On Delay Time	t _{d(on)}	V _{DD} =-15V, R _L =10Ω, I _D =-1.5A, V _{GEN} =-4.5V,R _g =1Ω		36	44	
Rise Time	t _r			37	45	
Turn-Off Delay Time	t _{d(off)}			12	18	
Fall Time	t _f			9	14	
Drain-source Body diode characteristics						
Continuous Source-Drain Diode Current	I _S	T _C =25°C			-1.75	A
Pulse Diode Forward Current ^a	I _{SM}				-10	
Body Diode Voltage	V _{SD}	I _S =-1.5A		-0.8	-1.2	V

Notes :

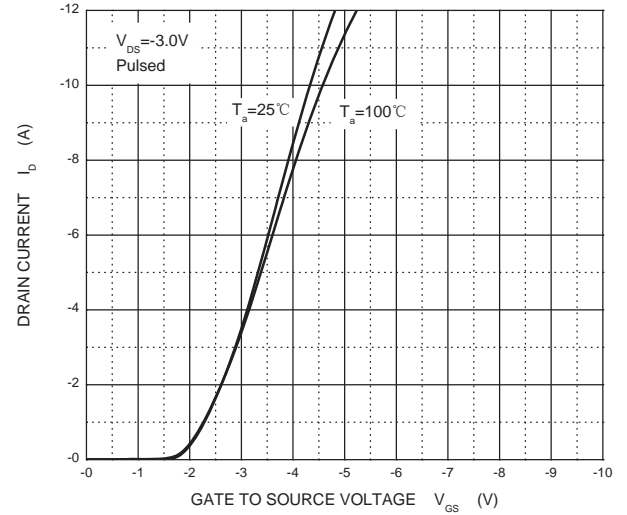
- Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- Guaranteed by design, not subject to production testing.

TYPICAL TRANSIENT CHARACTERISTICS

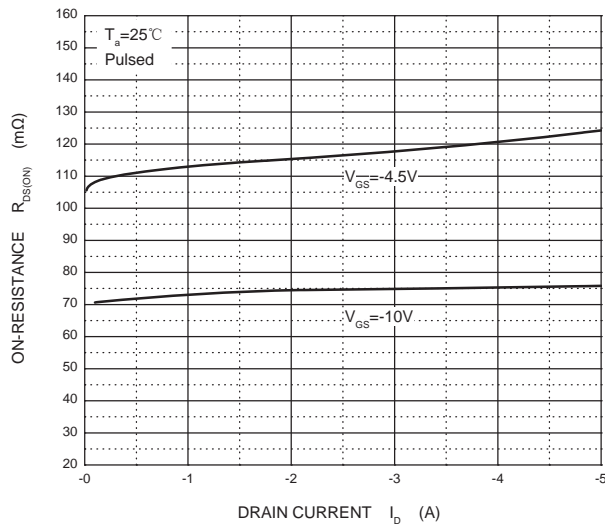
Output Characteristics



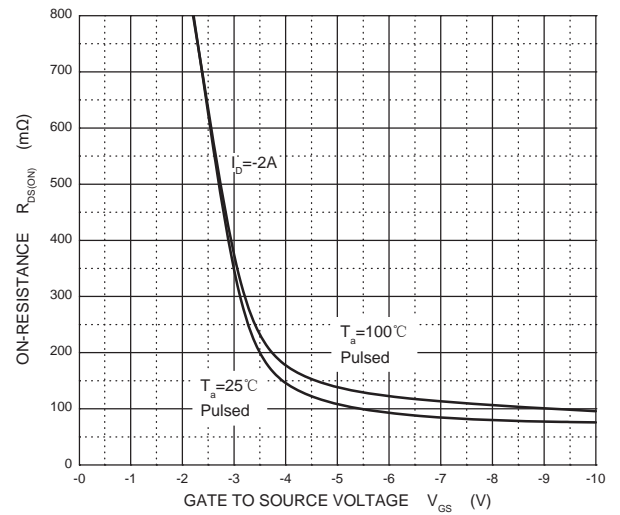
Transfer Characteristics



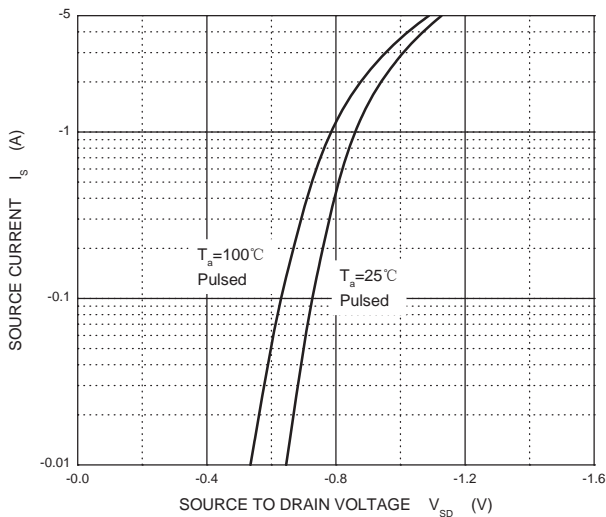
$R_{DS(ON)}$ — I_D



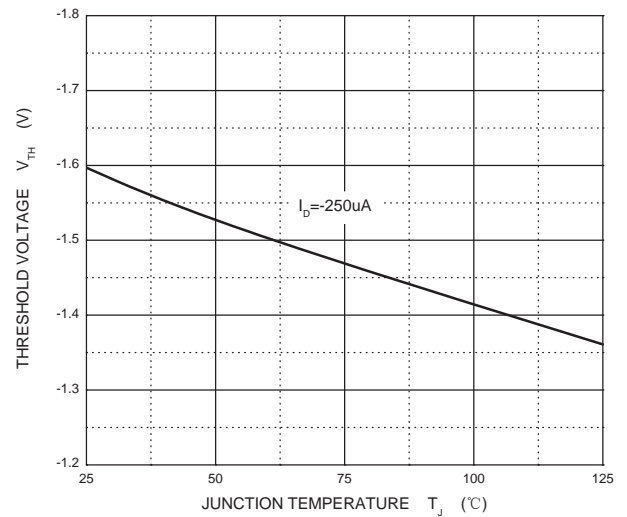
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage



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