



Micro Commercial Components



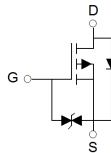
Micro Commercial Components
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SI3139KL

Features

- Lead Free Product is Acquired
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Operated at Low Logic Level Gate Drive
- P-Channel Switch with Low RDS(on)
- Surface Mount Package
- Marking :39

Equivalent Circuit



Absolute maximum ratings @ 25°C

Symbol	Parameter	Value	Unit
V_{DS}	Drain-source Voltage	-20	V
V_{GS}	Gate-source Voltage	± 12	V
I_D	Continuous Drain Current ⁽¹⁾	-0.68	A
I_{DM}	Pulsed Drain Current	-1.2	A
P_D	Total Power Dissipation ⁽²⁾	100	mW
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C
T_L	Lead Temperature for Soldering Purposes	260	°C
R_{thJA}	Thermal Resistance from Junction to Ambient	1250	°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

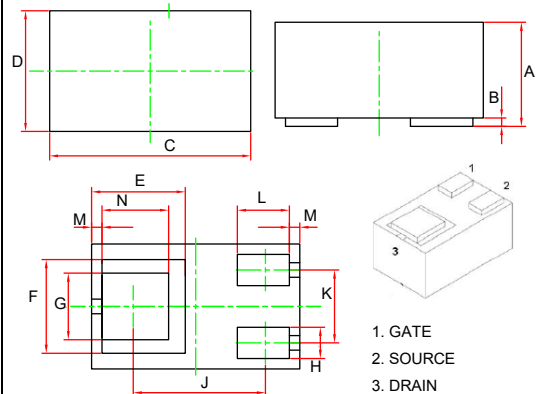
Symbol	Parameter	Min	Typ	Max	Units	
STATIC PARAMETERS						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage ($V_{GS}=0Vdc, I_D=-250\mu Adc$)	-20	---	---	Vdc	
$V_{GS(th)}$	Gate-Threshold Voltage ($V_{DS}=V_{GS}, I_D=-250\mu Adc$)	-0.35	---	-1.1	Vdc	
I_{GSS}	Gate-body Leakage ($V_{GS}=\pm 10V, V_{DS}=0V$)	---	---	± 20	μA	
I_{DSS}	Zero Gate Voltage Drain Current ($V_{DS}=-20Vdc, V_{GS}=0Vdc$)	---	---	-1	μAdc	
V_{SD}	Diode Forward Voltage ($I_S=-0.5A, V_{GS}=0V$)	---	---	-1.2	Vdc	
$r_{DS(on)}$	Drain-Source On-Resistance ($V_{GS}=-4.5Vdc, I_D=-1.0Adc$) ($V_{GS}=-2.5Vdc, I_D=-0.8Adc$) ($V_{GS}=-1.8Vdc, I_D=-0.5Adc$)	---	---	0.52 0.70 ---	Ω	
g_{FS}	Forward transconductance ($V_{DS}=-10Vdc, I_D=-0.54Adc$)	---	1.2	---	S	
DYNAMIC PARAMETERS ⁽⁴⁾						
C_{iss}	Input Capacitance	$V_{DS}=-16Vdc,$ $V_{GS}=0Vdc$ $f=1MHz$	---	113	170	pF
C_{OSS}	Output Capacitance		---	15	25	
C_{rSS}	Reverse Transfer capacitance		---	9	15	
SWITCHING PARAMETERS ⁽⁴⁾						
$t_{d(on)}$	Turn-on Time ⁽³⁾	$V_{DD}=-4.5V,$ $V_{GS}=-10V,$ $I_D=-200mA$ $R_{GEN}=10\Omega$	---	9.0	---	ns
$t_{d(off)}$	Turn-off Time ⁽³⁾		---	32.7	---	
t_r	Rise Time ⁽³⁾		---	5.8	---	
t_f	Fall Time ⁽³⁾		---	20.3	---	

Notes :

- Surface mounted on FR4 board using the minimum recommended pad size.
- Pulse est : Pulse width=300 μs , duty cycle $\leq 2\%$.
- Switching characteristics are independent of operating junction temperatures.
- Garanted y design, not subject to producing.

P-Channel MOSFET

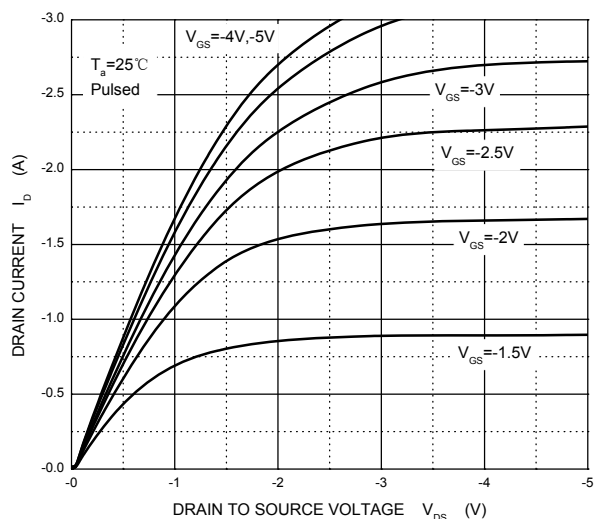
SOT-883



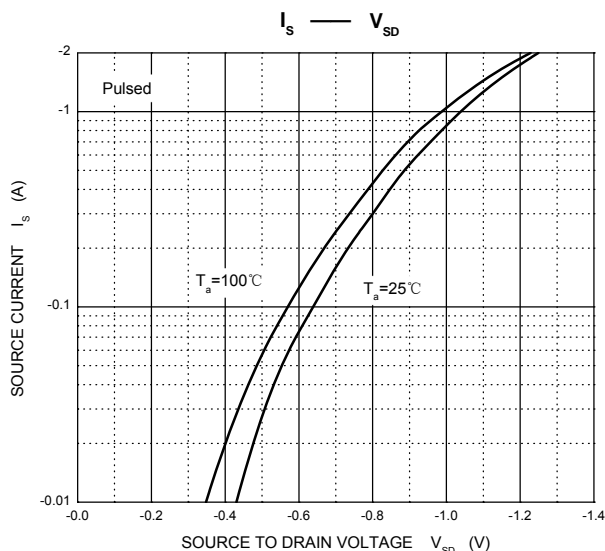
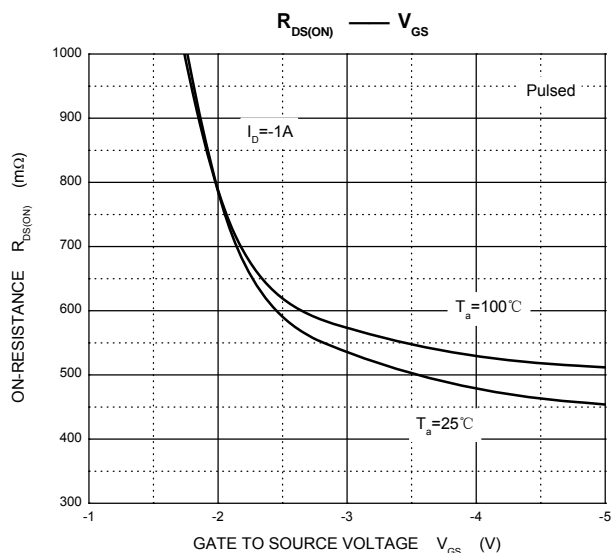
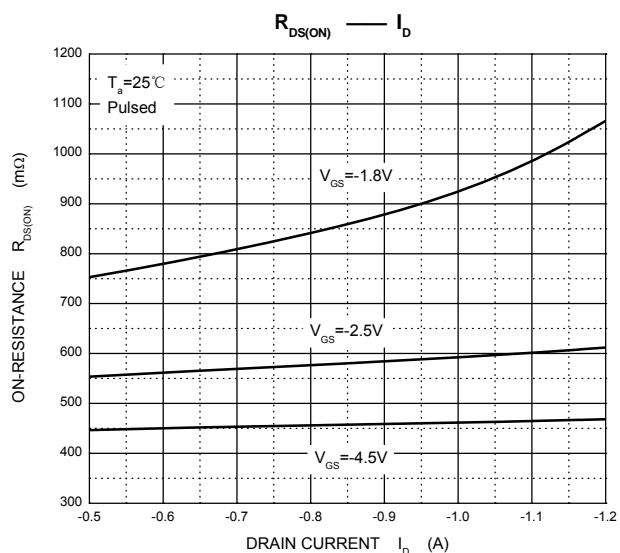
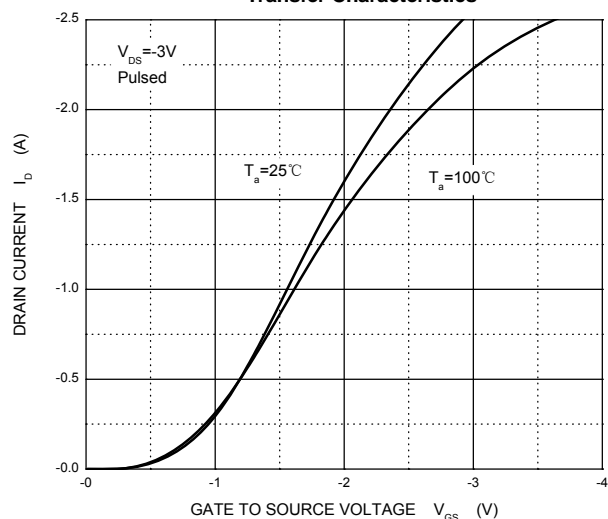
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.450	0.550	
B	0.000	0.004	0.010	0.100	
C	0.037	0.041	0.950	1.050	
D	0.022	0.026	0.550	0.650	
E	0.018REF.		0.450REF.		
F	0.018REF.		0.450REF.		
G	0.011	0.015	0.270	0.370	
H	0.004	0.008	0.100	0.200	
J	0.025REF.		0.635REF.		
K	0.012	0.016	0.300	0.400	
L	0.008	0.012	0.200	0.300	
M	0.002REF.		0.050REF.		
N	0.011	0.015	0.270	0.370	

Typical Characteristics

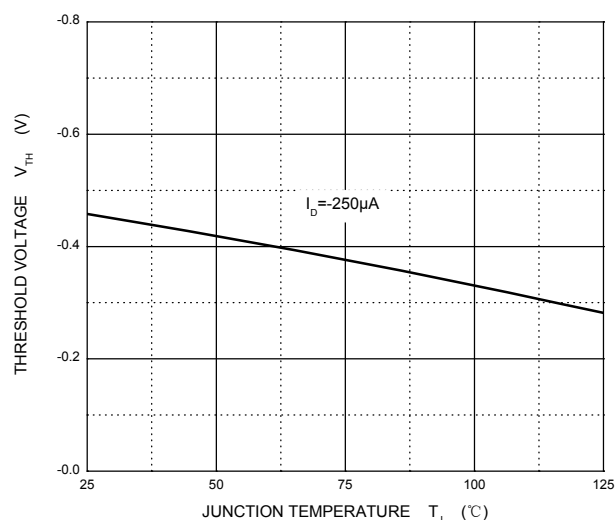
Output Characteristics



Transfer Characteristics



Threshold Voltage



Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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