

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

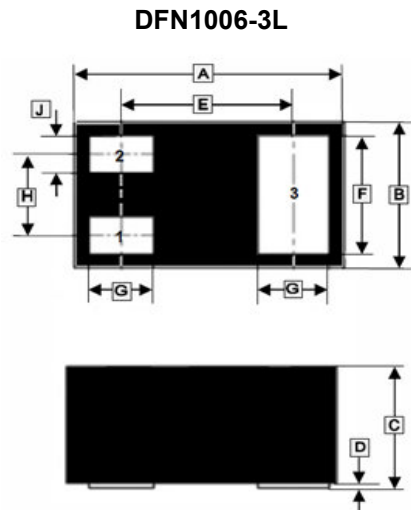
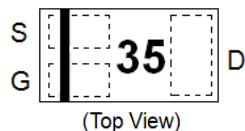
FEATURES

- ESD Protected Gate
- Low $R_{DS(ON)}$
- Surface Mount Package
- Operated at Low Logic Level Gate Drive

APPLICATIONS

- Load/ Power Switching
- Interfacing Switching
- Logic Level Shift
- Battery Management for Ultra Small Portable Electronics

MARKING



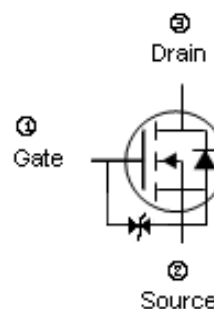
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.075	F	0.45	0.55
B	0.55	0.675	G	0.20	0.30
C	0.46	0.53	H	0.35 TYP.	
D	0	0.05	J	0.15 TYP.	
E	0.65 TYP.				

PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006-3L	10K	7 inch

ORDER INFORMATION

Part Number	Type
SWJ3541K-C	Lead (Pb)-free and Halogen-free



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ¹	I_D	0.6	A
Pulsed Drain Current ($t_p=10\mu\text{s}$)	I_{DM}	1.8	A
Power Dissipation ¹	P_D	100	mW
Lead Temperature for Soldering Purposes (1/8" from case for 10s)	T_L	260	$^\circ\text{C}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$
Thermal Resistance Rating			
Thermal Resistance from Junction-Ambient ¹	$R_{\theta JA}$	1250	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

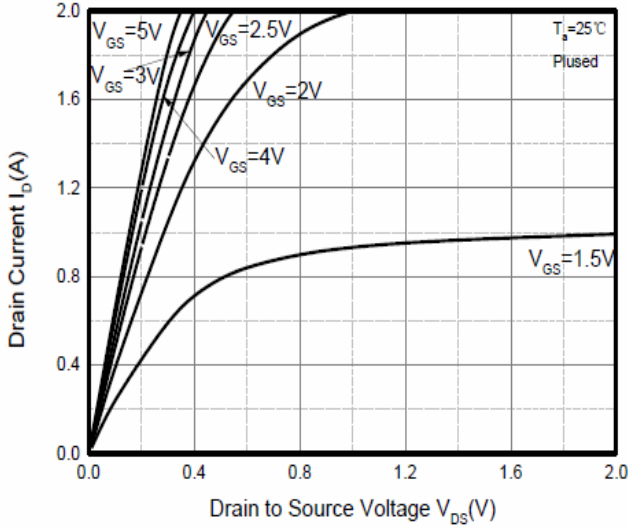
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	30	-	-	V	$V_{GS}=0V, I_D=250\mu A$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	$V_{DS}=30V, V_{GS}=0$
Gate-Source Leakage Current	I_{GSS}	-	-	± 20	μA	$V_{DS}=0V, V_{GS}=\pm 10V$
Gate Threshold Voltage ²	$V_{GS(th)}$	0.8	-	1.5	V	$V_{DS}=V_{GS}, I_D=250\mu A$
Drain-Source On-Resistance ²	$R_{DS(ON)}$	-	320	500	m Ω	$V_{GS}=4.5V, I_D=600mA$
		-	410	600		$V_{GS}=2.5V, I_D=300mA$
Forward Transfer conductance	g_{fs}	-	150	-	mS	$V_{DS}=10V, I_D=150mA$
Turn-On Delay Time ³	$T_{d(on)}$	-	5	-	nS	$V_{DS}=10V$ $V_{GS}=4.5V$ $I_D=500mA$ $R_G=10\Omega$
Rise Time ³	T_r	-	8.2	-		
Turn-Off Delay Time ³	$T_{d(off)}$	-	23	-		
Fall Time ³	T_f	-	41	-		
Input Capacitance	C_{iss}	-	44	-	pF	$V_{DS}=16V$ $V_{GS}=0V$ $f=1MHz$
Output Capacitance	C_{oss}	-	15	-		
Reverse Transfer Capacitance	C_{rss}	-	8	-		
Source-Drain Diode						
Forward Diode Voltage ³	V_{SD}	-	-	1.2	V	$V_{GS}=0V, I_S=0.15A$

Notes:

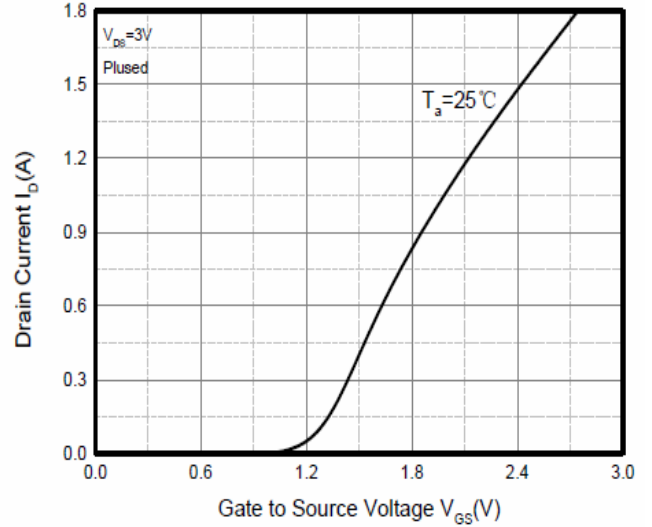
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test: Pulse Width=300 μs , duty cycle=2%.
3. Switching characteristics are independent of operating junction temperature.

CHARACTERISTIC CURVES

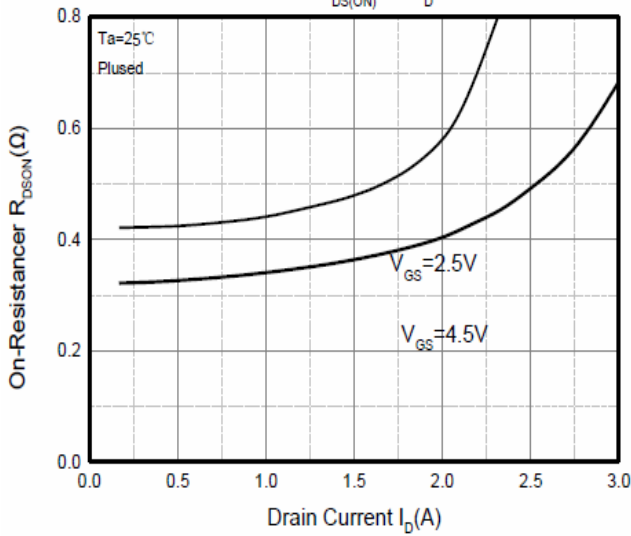
Output Characteristics



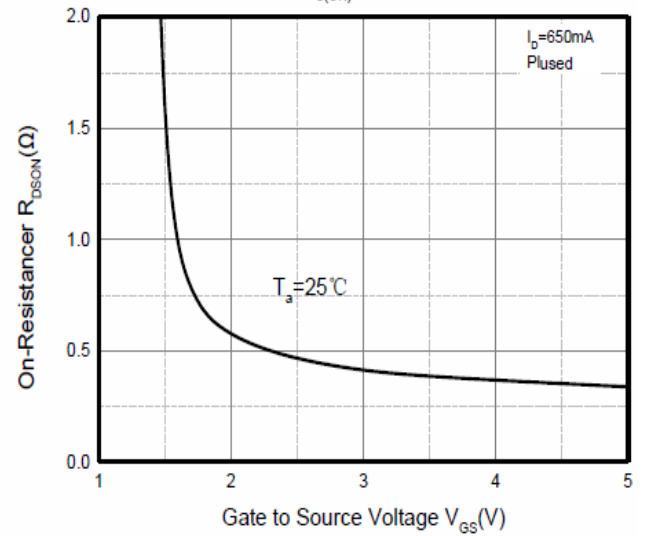
Transfer Characteristics



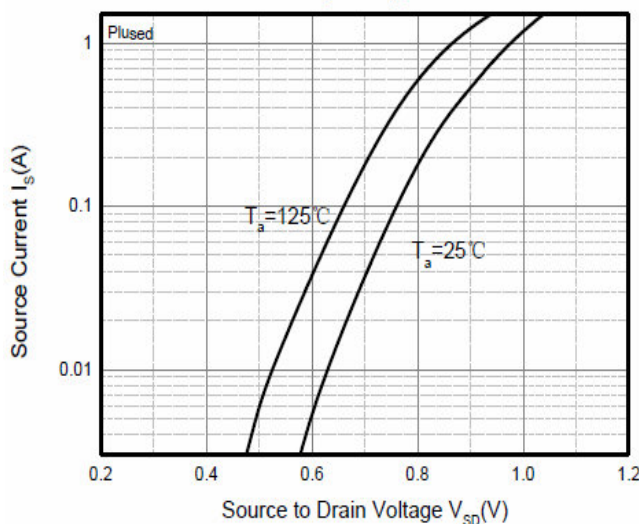
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage

