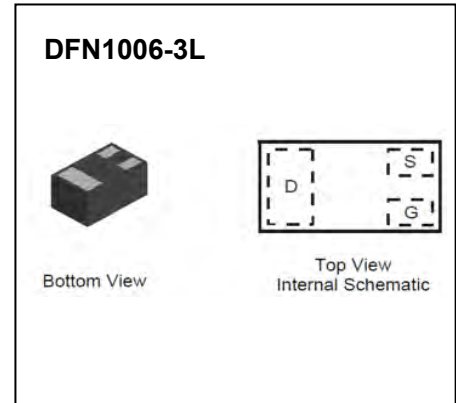


DFN1006-3L Plastic-Encapsulate MOSFETs

CJBA3541K N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	500mΩ@4.5V	0.6A
	600mΩ@2.5V	



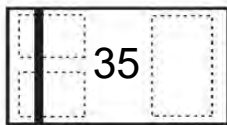
FEATURE

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected Gate

APPLICATION

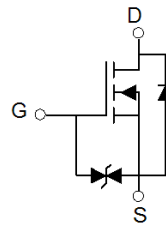
- Load/ Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

MARKING:



Top View
Bar Denotes Gate and Source Side

Equivalent Circuit



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

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

MOSFET ELECTRICAL CHARACTERISTICS

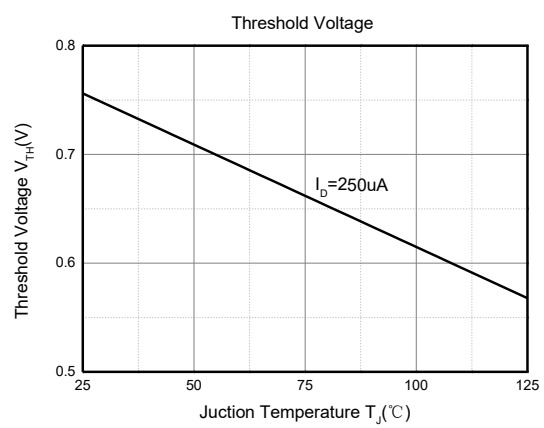
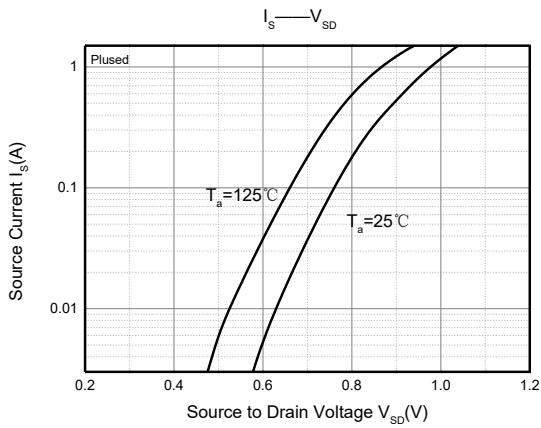
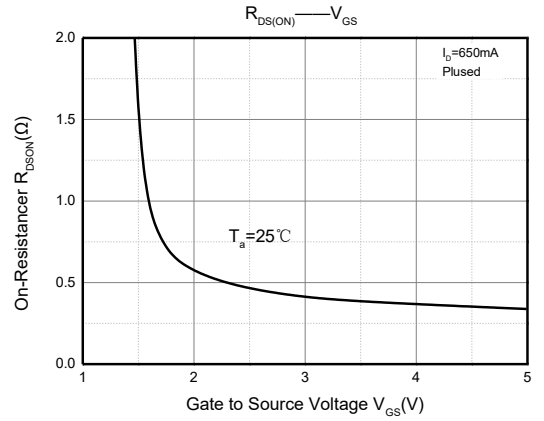
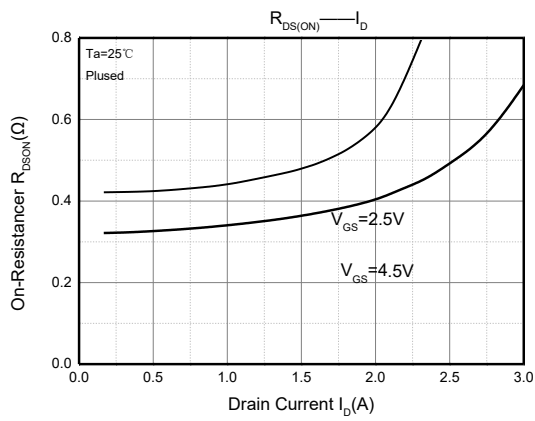
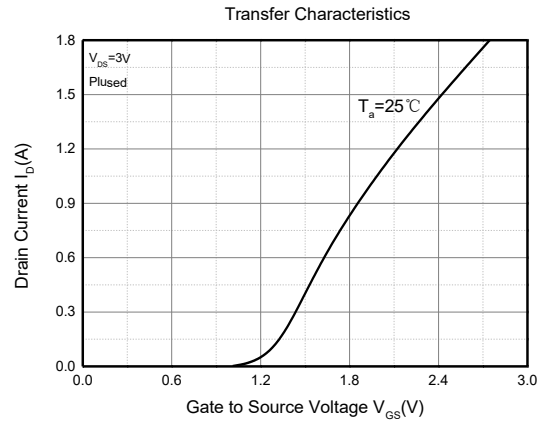
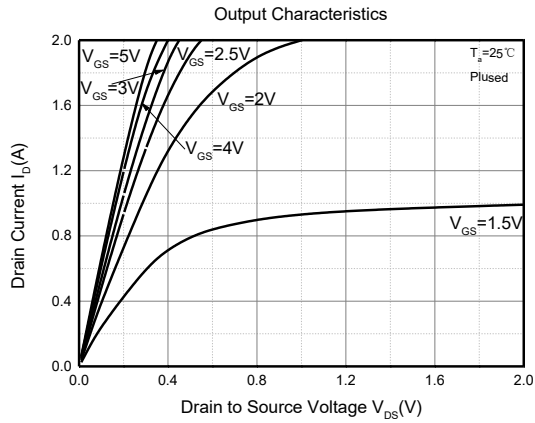
$T_a=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 20	μA
Gate threshold voltage ⁽²⁾	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.8	1.0	1.5	V
Drain-source on-resistance ⁽²⁾	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 600mA$		320	500	m Ω
		$V_{GS} = 2.5V, I_D = 300mA$		410	600	
Forward transconductance	g_{FS}	$V_{DS} = 10V, I_D = 150mA$	150			mS
Dynamic characteristics⁽⁴⁾						
Input Capacitance	C_{iss}	$V_{DS} = 16V, V_{GS} = 0V, f = 1MHz$		44	120	pF
Output Capacitance	C_{oss}			15	20	
Reverse Transfer Capacitance	C_{rss}			8	15	
Switching Characteristics⁽⁴⁾						
Turn-on delay time ⁽³⁾	$t_{d(on)}$	$V_{DS} = 10V, I_D = 500mA,$ $V_{GS} = 4.5V, R_G = 10\Omega$		5.0		ns
Turn-on rise time ⁽³⁾	t_r			8.2		
Turn-off delay time ⁽³⁾	$t_{d(off)}$			23		
Turn-off fall time ⁽³⁾	t_f			41		
Source-Drain Diode characteristics						
Diode Forward voltage ⁽³⁾	V_{DS}	$I_S = 0.15A, V_{GS} = 0V$			1.2	V

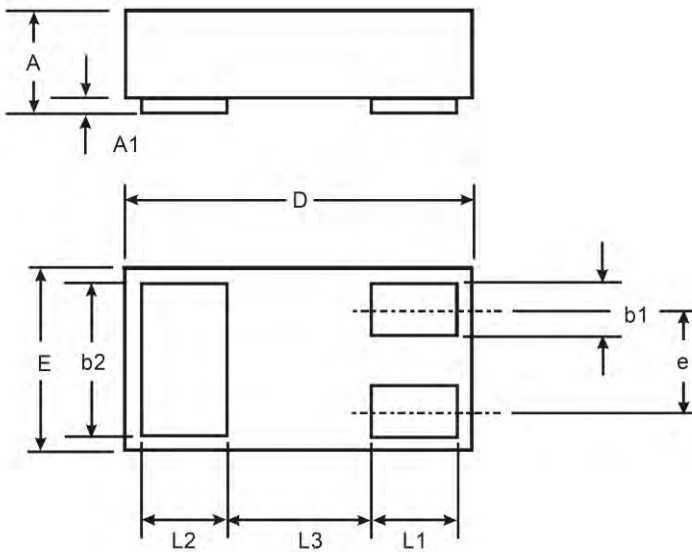
Notes:

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 temperatures.
4. Guaranteed by design, not subject to producing.

Typical Characteristics



DFN1006-3L Package Outline Dimensions



X1-DFN1006-3			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0	0.05	0.03
b1	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	—	—	0.40
All Dimensions in mm			

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