



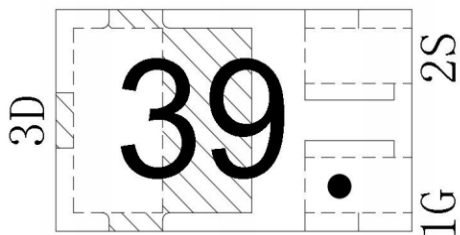
FEATURE

- Lead Free Product is Acquired
- Surface Mount Package
- P-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected Gate 2000V

APPLICATION

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

MARKING



P-Channel MOSFET

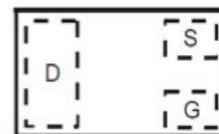
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	365mΩ@-4.5V	-1.2A
	520mΩ@-2.5V	
	700mΩ@-1.8V	

PACKAGE

DFN1006-3

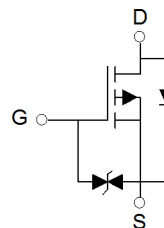


Bottom View



Top View
Internal Schematic

Equivalent Circuit



ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Typical Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current (note 1)	I_D	-1.2	A
Pulsed Drain Current (tp=10us)	I_{DM}	-2.3	A
Power Dissipation (note 2)	P_D	100	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	1250	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~ 150	°C
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	°C



MOSFET ELECTRICAL CHARACTERISTICS

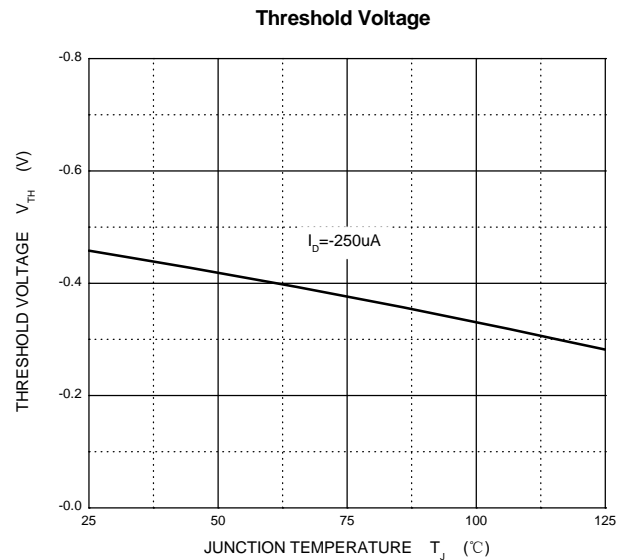
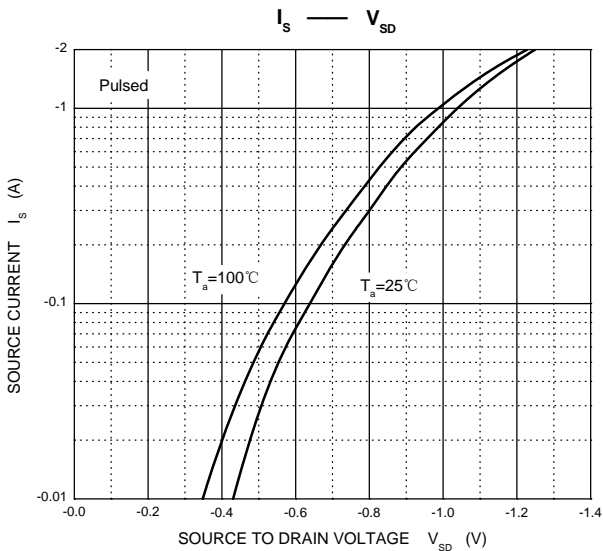
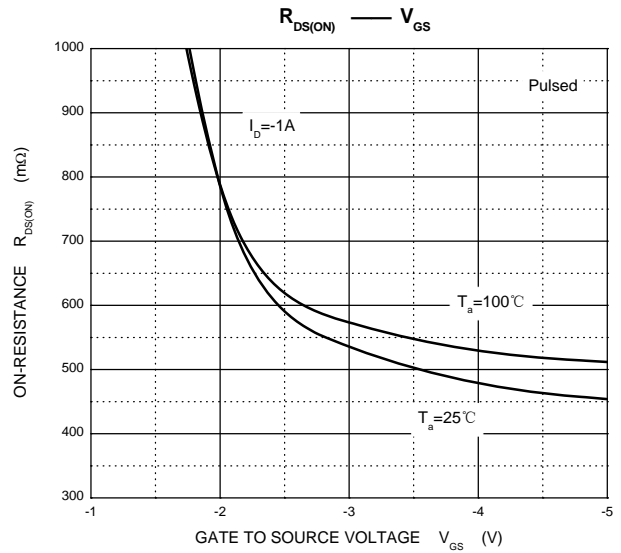
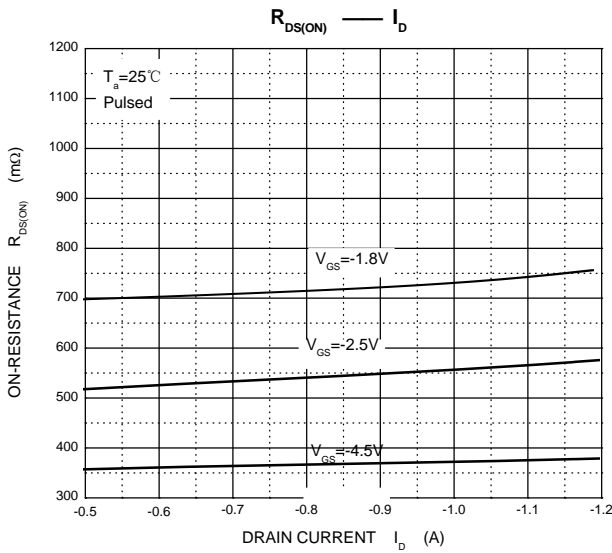
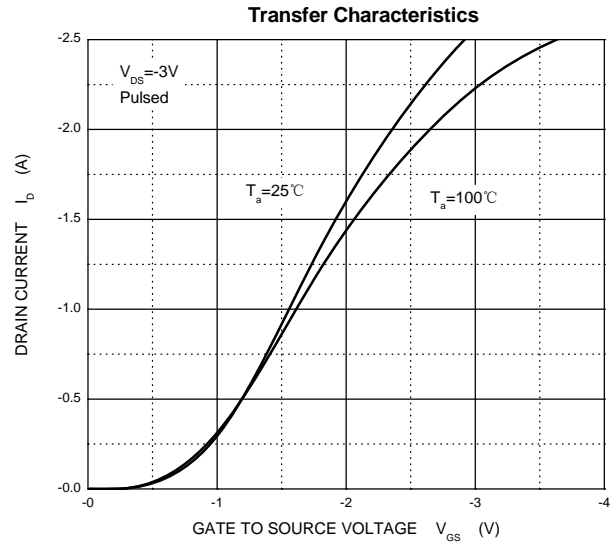
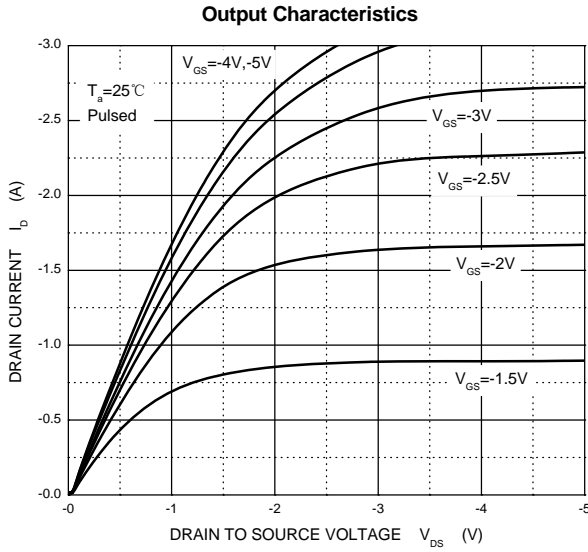
T_A=25 °C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20	-24		V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -20V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±10	uA
Gate threshold voltage (note 2)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.35		-1.1	V
Drain-source on-resistance(note 2)	R _{DS(on)}	V _{GS} = -4.5V, I _D = -0.5A		365	410	mΩ
		V _{GS} = -2.5V, I _D = -0.3A		520	680	mΩ
		V _{GS} = -1.8V, I _D = -0.2A		700		mΩ
Forward tranconductance(note 2)	g _{FS}	V _{DS} = -10V, I _D = -0.54A		1.2		S
Diode forward voltage	V _{SD}	I _S = -0.5A, V _{GS} = 0V			-1.2	V
DYNAMIC PARAMETERS(note 4)						
Input Capacitance	C _{iss}	V _{DS} = -16V, V _{GS} = 0V, f = 1MHz		113	170	pF
Output Capacitance	C _{oss}			15	25	pF
Reverse Transfer Capacitance	C _{rss}			9	15	pF
SWITCHING PARAMETERS (note 4)						
Turn-on delay time (note 3)	t _{d(on)}	V _{DD} = -4.5V, V _{GS} = -10V, I _D = -200mA, R _{GEN} = 10Ω		9		ns
Turn-on rise time (note 3)	t _r			5.8		ns
Turn-off delay time (note 3)	t _{d(off)}			32.7		ns
Turn-off fall time (note 3)	t _f			20.3		ns

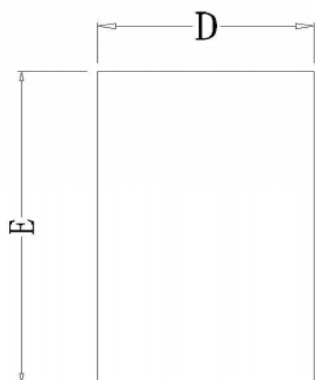
Notes :

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse width=300μs, duty cycles≤2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Garanted by design, not subject to producing.

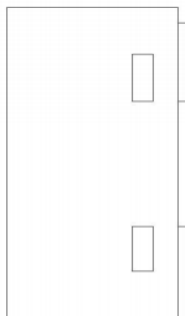
Typical Characteristics



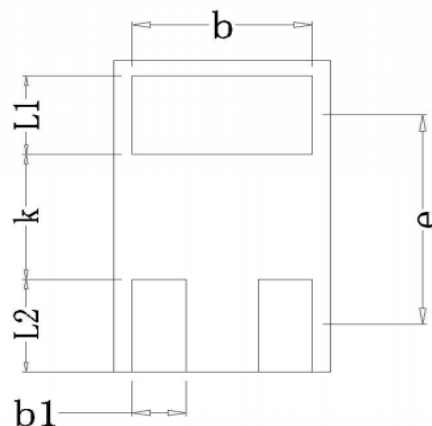
DFN1006-3 Package Outline Dimensions



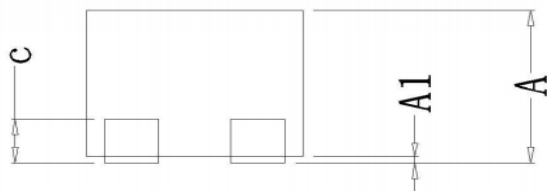
Top View



Side View



Bottom View



Side View

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.425	0.475	0.525
A1	--	0.02	0.05
b	0.45	0.50	0.55
b1	0.10	0.15	0.20
c	0.127 REF		
D	0.50	0.60	0.70
e	0.675 BSC		
E	0.90	1.00	1.10
k	0.35	0.40	0.45
L1	0.20	0.25	0.30
L2	0.25	0.30	0.35