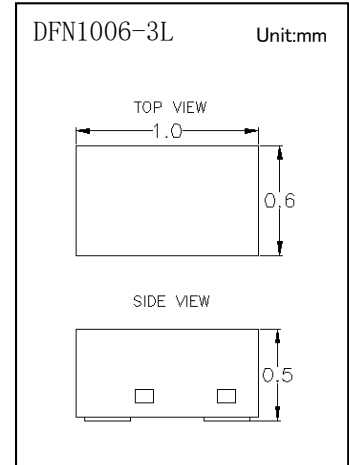
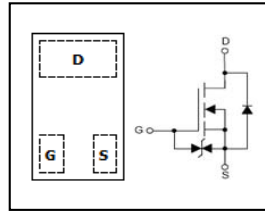


## N-Channel MOSFET

- ◇ N-Channel Switch with Low  $R_{DS(on)}$
- ◇ Surface Mount Package
- ◇ ESD Protection
- ◇ RoHS compliant / Green EMC

Device Marking Code	
FTK7002KDFN1006	RK

Circuit Diagram



### Maximum Ratings ( $T_a = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{DS}$	Drain-Source Voltage	60	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D^*$	Drain Current-Continuous	0.34	A
$I_{DM}^*$	Pulsed Drain Current ( $V_{GS}=10\text{V}$ , $t_p=10\mu\text{s}$ )	800	mA
$P_D$	Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	357	$^\circ\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	$-55 \sim +150$	$^\circ\text{C}$

\* Surface Mounted on 1 in<sup>2</sup> pad area,  $t \leq 10$  sec



## N-Channel MOSFET

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=10\mu A$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0		2.5	V
$I_{GSS}$	Gate Leakage Current	$V_{DS}=0V, V_{GS}=\pm 20V$ $V_{DS}=0V, V_{GS}=\pm 5V$			$\pm 10$ $\pm 100$	$\mu A$ nA
$I_{DSS}$	Drain Leakage Current	$V_{DS}=60V, V_{GS}=0V$			1	$\mu A$
$R_{DS(on)}$	On-State Resistance	$V_{GS}=10V, I_D=500mA,$ $V_{GS}=4.5V, I_D=200mA$			3.0 4.0	$\Omega$
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_S=200mA$			1.3	V
gfs	Forward Transconductance	$V_{DS}=10V, I_D=200mA$	80			mS

### Dynamic Characteristics

$C_{iss}$	Input Capacitance	$V_{GS}=0V, V_{DS}=25V, f=1MHz$		28		$\mu F$
$C_{oss}$	Output Capacitance			1.6		
$C_{rss}$	Reverse Transfer Capacitance			1.1		

### Switching Characteristics

$t_{d(on)}$	Turn-on Delay Time	$V_{DS}=30V, R_L=150\Omega, R_G=3.9\Omega$ $V_{GEN}=10V, I_{DS}=200mA$		3.8		nS
$t_r$	Turn-on Rise Time			3.5		
$t_{d(off)}$	Turn-off Delay Time			12.4		
$t_f$	Turn-off Fall Time			44.4		

### Gate Charge Characteristics

$Q_g$	Total Gate Charge	$V_{GS}=10V, I_{DS}=500mA, V_{DS}=30V$		1.2		nC
$Q_{gs}$	Gate-Source Charge			0.5		
$Q_{gd}$	Gate-Drain Charge			0.1		

## N-Channel MOSFET

### Ordering Information

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
FTK7002KDFN1006	DFN1006-3L	Tape & Reel 10000pcs /7" Reel	8mm	4mm	Conductive	

### Package Dimensions

