

Description

This 20V,0.75A N-Channel MOSFET in a DFN1006-3L Plastic Package.

Applications

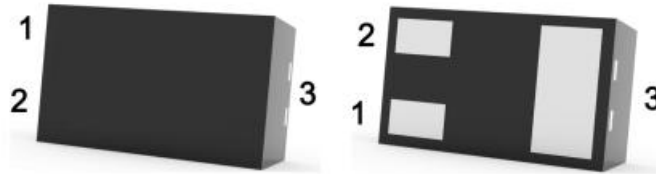
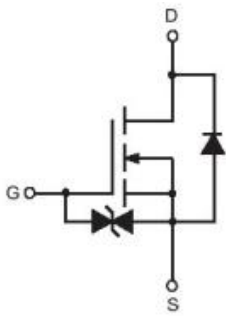
Intended for use in general purpose switching and phase control applications

Features

- Sensitive gate trigger current and Low Holding current
- ESD protected up to 2KV
- Halogen-free Product

V_{DSS}	$R_{DS(on)}$ Typ	I_D
20V	273mΩ	0.75A

Equivalent Circuit & Pinning



Pin1:Gate Pin2:Source Pin3:Drain

Absolute Maximum Ratings(Ta=25°C)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V _{DSS}	20	V
Gate-Source Voltage		V _{GSS}	±8	V
Drain Current – Continuous		I _D	0.75	A
Pulsed Drain Current		I _{DM}	1.8	A
Power Dissipation		P _D	0.9	W
Storage Temperature Range		T _{stg}	-55 to 150	°C
Thermal resistance, junction - ambient	t ≤ 10s	R _{θJA}	100	°C/W
	Steady-State		140	

Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	V_{DS}	$V_{GS}=0$ $I_D=250\mu A$	20	22.9		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=20V$			1	μA
Gate–Body Leakage	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 8V$			10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	0.3	0.68	1	V
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=2.5V$ $I_D=200mA$		273	400	m Ω
	$R_{DS(on)(2)}$	$V_{GS}=1.8V$ $I_D=100mA$		353	750	m Ω
	$R_{DS(on)(3)}$	$V_{GS}=1.5V$ $I_D=50mA$		442		m Ω
	$R_{DS(on)(4)}$	$V_{GS}=1.2V$ $I_D=20mA$		733		m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=250mA$		0.86	1.2	V
Gate Resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		60		Ω
Input Capacitance	C_{iss}	$V_{DS}=10V$ $V_{GS}=0V$ $f=1.0MHz$		105		pF
Output Capacitance	C_{oss}			65		
Reverse Transfer Capacitance	C_{rss}			20		

Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Gate Charge	Q_g	$V_{GS}=4.5V, V_{DS}=10V,$ $I_D=0.4A$		0.85		nC
Gate Source Charge	Q_{gs}			0.1		
Gate Drain Charge	Q_{gd}			0.25		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=4.5V \quad V_{DS}=10V$ $R_L=25\Omega$ $R_{GEN}=3\Omega$		2		ns
Turn-On Rise Time	t_r			4		ns
Turn-Off Delay Time	$t_{d(off)}$			18		ns
Turn-Off Fall Time	t_f			8		ns

Electrical Characteristic Curve

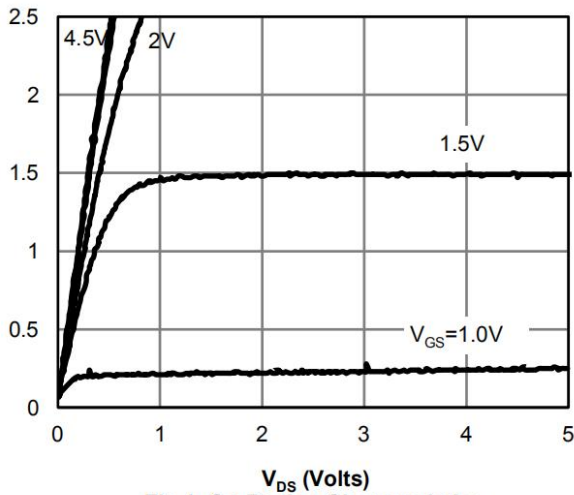


Fig 1: On-Region Characteristics

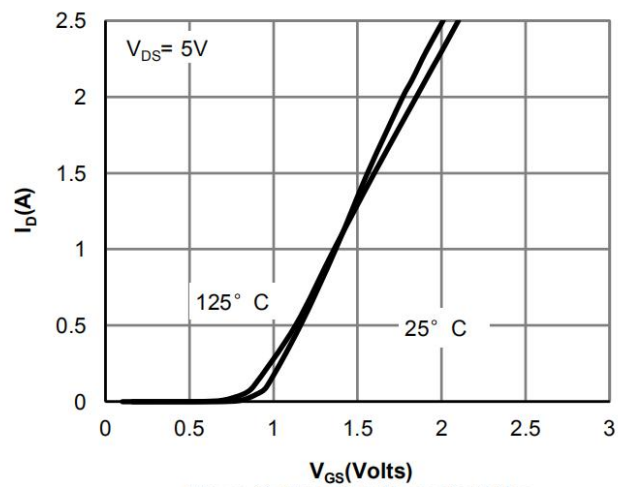


Figure 2: Transfer Characteristics

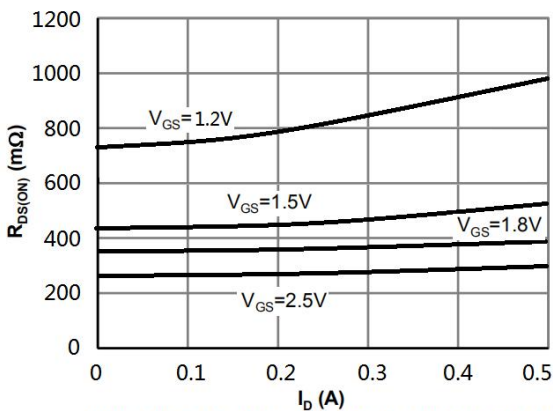


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

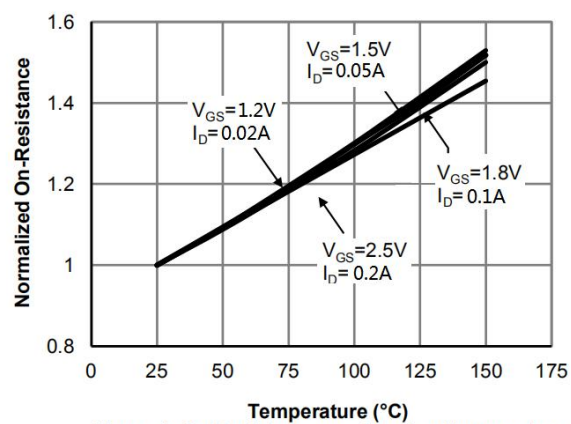


Figure 4: On-Resistance vs. Junction Temperature

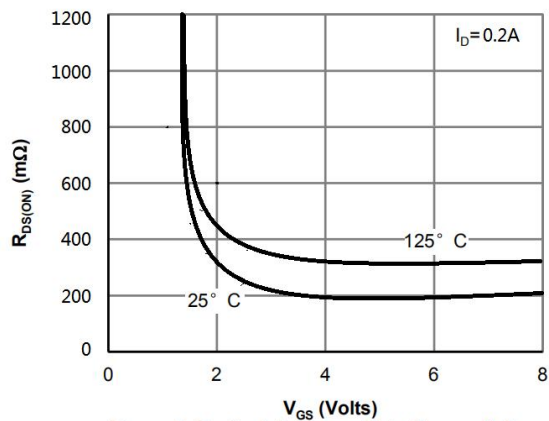


Figure 5: On-Resistance vs. Gate-Source Voltage

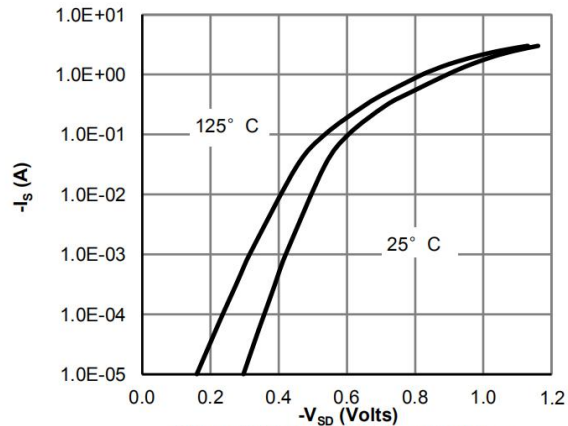
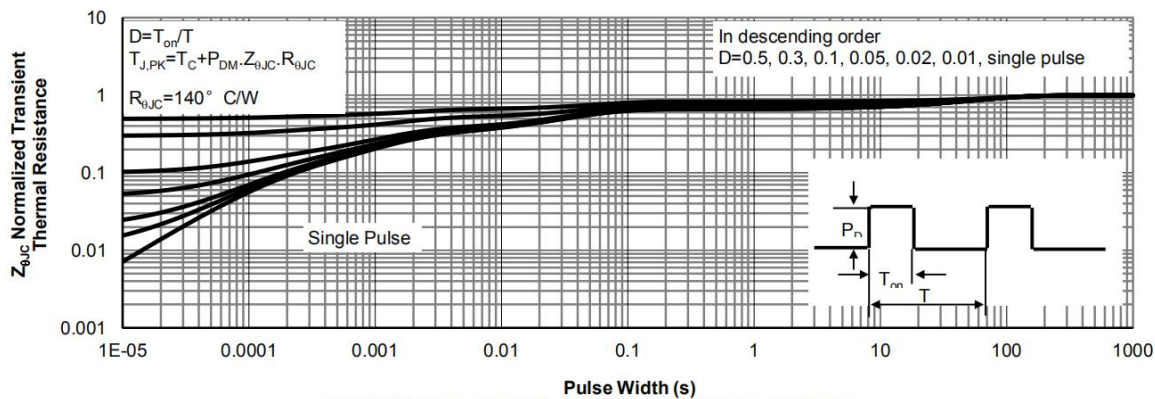
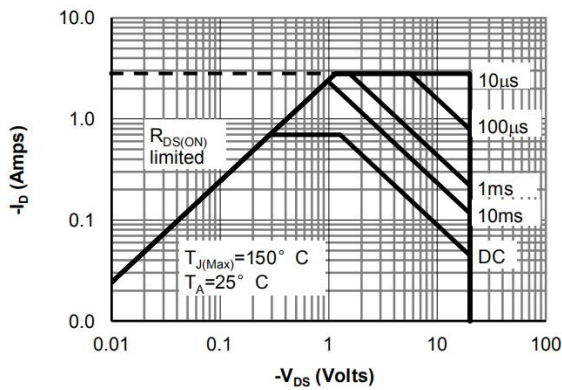
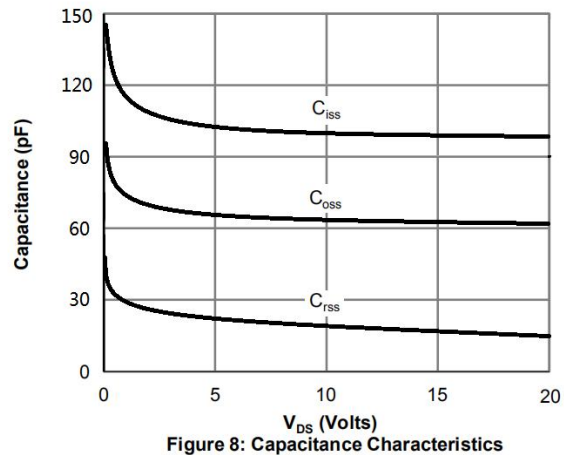
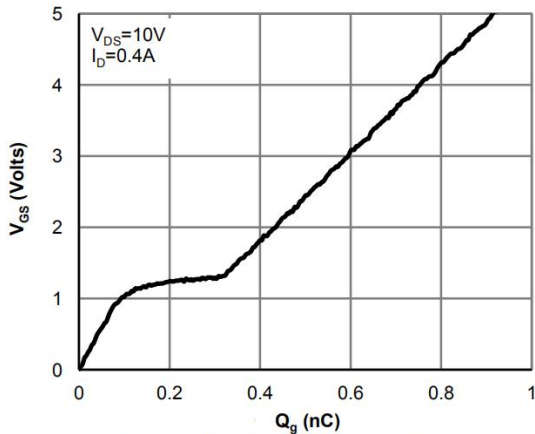


Figure 6: Body-Diode Characteristics

Electrical Characteristic Curve



Marking Instructions



Note:

3134K: Product Type

Packaging SPEC.

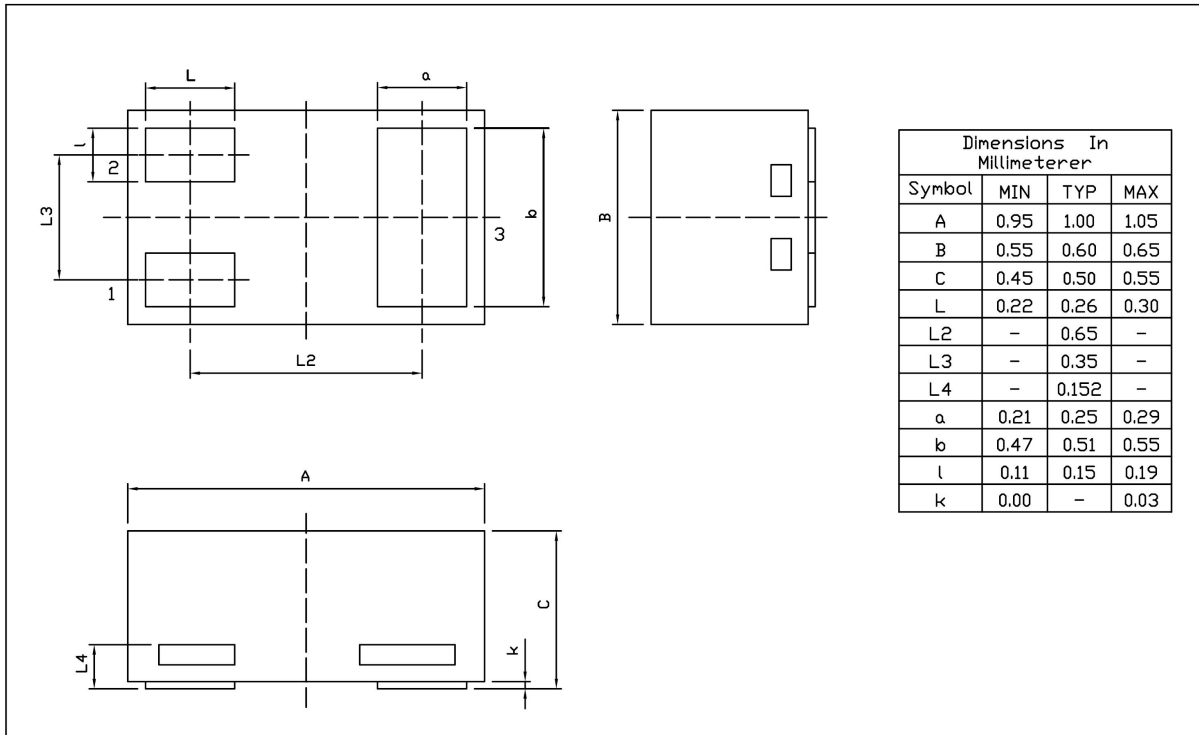
REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
DFN1006-3L	10,000	10	100,000	4	400,000	7" × 8	210×205×205	445×230×435

Package Dimensions

DFN1006-3L

Unit:mm



Rev.03 202108