

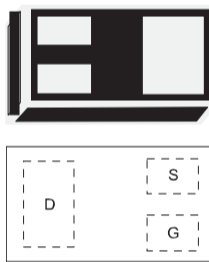
Product Summary

- $V_{DS} = 60V, I_D = 0.3A$
 $R_{DS(ON)} < 2.5 \Omega @ V_{GS}=4.5V$
 $R_{DS(ON)} < 2.2 \Omega @ V_{GS}=10V$
- ESD Rating : HBM 2000V

Application

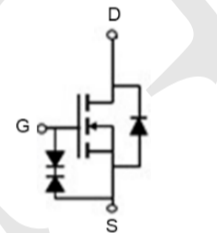
- Direct logic-level interface: TTL/CMOS
- Drivers: relays, solenoids, lamps, hammers, display, memories, transistors, etc.
- Battery operated systems
- Solid-state relays

Package and Pin Configuration



DFN1006-3L

Circuit diagram



Marking:4S

Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ($T_J=150^\circ C$)	I_D	$T_A=25^\circ C$	0.3
		$T_A=100^\circ C$	0.19
Drain Current-Pulsed (Note 1)	I_{DM}	0.8	A
Maximum Power Dissipation	P_D	0.35	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^\circ C$

Thermal Characteristic

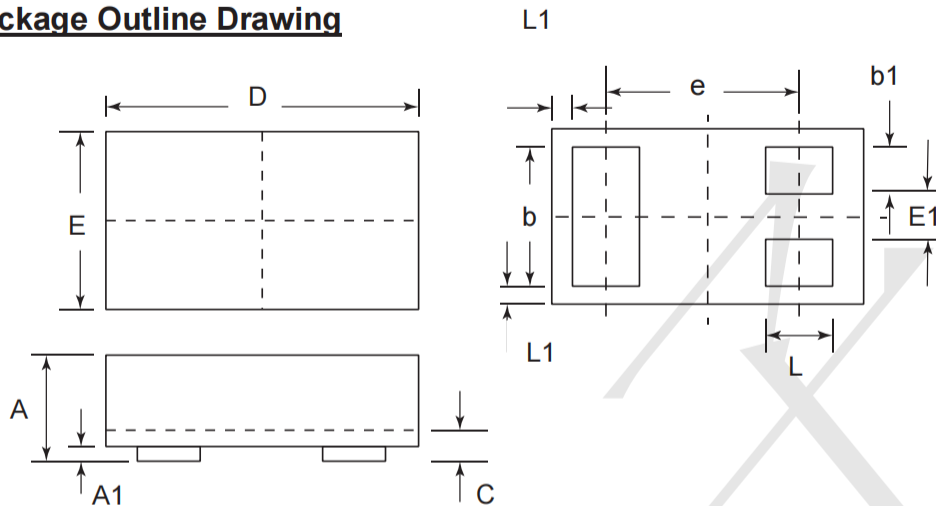
Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{\theta JA}$	350	$^\circ C/W$
--	-----------------	-----	--------------

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	60		-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$	-	-	± 1	μA
		$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 10	μA
On Characteristics (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.6		
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=0.2A$	-	1.9	2.5	Ω
		$V_{GS}=10V, I_D=0.3A$	-	1.8	2.2	Ω
Forward Transconductance	g_{FS}	$V_{DS}=10V, I_D=0.2A$	0.1	-	-	S
Dynamic Characteristics (Note 4)						
Input Capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V,$ $F=1.0MHz$		27		PF
Output Capacitance	C_{oss}			18		PF
Reverse Transfer Capacitance	C_{rss}			2		PF
Switching Characteristics (Note 4)						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=30V, I_D=0.2A$ $V_{GS}=10V, R_{GEN}=10\Omega$	-	10	-	nS
Turn-on Rise Time	t_r		-	50	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	17	-	nS
Turn-Off Fall Time	t_f		-	10	-	nS
Total Gate Charge	Q_g	$V_{DS}=10V, I_D=0.3A,$ $V_{GS}=4.5V$	-	1.7	3	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 3)	V_{SD}	$V_{GS}=0V, I_S=0.2A$	-	-	1.2	V
Diode Forward Current (Note 2)	I_S		-	-	0.3	A

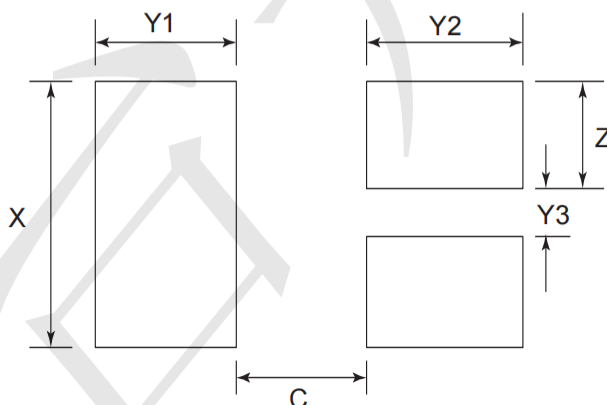


DFN1006-3L Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
b1	0.10	0.15	0.20	0.004	0.006	0.008
C	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
E1	0.15	0.20	0.25	0.006	0.008	0.010
L	0.20	0.25	0.30	0.008	0.010	0.012
L1	0.05 REF			0.0002 REF		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	0.25	0.010
X	0.65	0.024
Y1	0.50	0.020
Y2	0.50	0.020
Y3	0.25	0.010
Z	0.20	0.008

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [TECH PUBLIC](#) manufacturer:

Other Similar products are found below :

[IRFD120](#) [IRFY240C](#) [JANTX2N5237](#) [2SK2267\(Q\)](#) [BUK455-60A/B](#) [MIC4420CM-TR](#) [VN1206L](#) [NDP4060](#) [SI4482DY](#)
[IPS70R2K0CEAKMA1](#) [SQD23N06-31L-GE3](#) [TK16J60W,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#)
[DMN1053UCP4-7](#) [SQJ469EP-T1-GE3](#) [NTE2384](#) [DMC2700UDMQ-7](#) [DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#)
[DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#)
[DMN6022SSD-13](#) [DMN13M9UCA6-7](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#) [IPB80P04P405ATMA2](#) [2N7002W-G](#) [MCAC30N06Y-](#)
[TP](#) [MCQ7328-TP](#) [NTMC083NP10M5L](#) [NVMFS2D3P04M8LT1G](#) [BXP7N65D](#) [BXP4N65F](#) [AOL1454G](#) [WMJ80N60C4](#) [BXP2N20L](#)
[BXP2N65D](#) [BXT1150N10J](#) [BXT1700P06M](#) [TSM60NB380CP](#) [ROG](#) [RQ7L055BGTCR](#) [DMNH15H110SK3-13](#)