

Rev.A Dec.-2023

TO-220FL N MOS

N-CHANNEL MOSFET in a TO-220FL Plastic Package.

Low gate charge, low crss, fast switching, Have good Electromagnetic Interference performance.

DC/DC

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	10	A
Drain Current - Pulsed	I_{DM}	40	A
Gate-Source Voltage	V_{GS}	± 30	V
Single-Pulse Avalanche Energy	E_{AS}	280	mJ
Reverse Current	I_{AR}	8	A
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	40	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.1	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	650	680		V
Zero Gate-Source Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0	3.2	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=4.75A$		0.73	0.85	Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1550		pF
Output Capacitance	C_{oss}			30		
Reverse Transfer Capacitance	C_{rss}			9		
Turn-On Charge	Q_G	$V_{DS}=520V$, $I_D=10.0A$, $V_{GS}=10V$		45		nC
Gate-Source Charge	Q_{GS}			6.8		
Gate-Drain Charge	Q_{GD}			19		

Turn-On Delay Time

 $t_{d(on)}$
 $V_{DD}=325V$
 $V_{GS}=10V$
 $I_D=10A$
 $V_{GS}=10V$
 $f=1kHz$ $P_{avg}=21W$





