

LMPDD0903DF 100V P-Channel MOSFET

Features

- -100V/-10A, R_{DS(ON)}<140mΩ@V_{GS}=-10V
- V_{GS} Guaranteed ±25V
- Improved dv/dt capability
- Fast switching
- Green Device Available
- TO-252-2L package design

Product Description

These P-Channel enhancement mode power field effect transistors are using trench DMOS technology. This advanced technology has been especially tailored to

Pin Configuration

minimize on-state resistance, provide superior switching performance, and withstand high energy pulse in the avalanche and commutation mode.

These devices are well suited for high efficiency fast switching applications.

Applications

- Networking
- Load Switch
- Led applications





Ordering Information

Ordering Information					
Part Number	P/N	PKG code	Pb Free code	Package	Quantity
LMPDD0903DF	LMPDD0903	D	F	TO-252-2L	2500

Marking Information

Marking Information				
Part Marking	Part Number	LFC code		
DD0903 XWMMMM	DD0903	XWMMMM		

Absolute Maximum Ratings

(T_C=25°C Unless otherwise noted)

Symbol	Parameter		Typical	Unit
V _{DS}	Drain-Source Voltage		-100	V
V _{GS}	Gate –Source Voltage		±25	V
lD	Continuous Drain Current	Tc=25°C	-10	
		T _C =100°C	-6.5	A
I _{DM}	Pulsed Drain Current		-40	A
_	Power Dissipation (T _C =25°C)		88	W
PD	Power Dissipation (Derate above 25°C)		0.59	W/°C
TJ	Operating Junction Temperature Range		-55 to +150	°C
Tstg	Storage Temperature Range		-55 to +150	0°
R _{eja}	Thermal Resistance-Junction to Ambient		62	°C/W
R _{eJC}	Thermal Resistance-Junction to Case		1.7	°C/W



Electrical Characteristics

(T_C=25°C Unless otherwise noted)

Symbol	Parameter	Conditions	Min	Тур	Мах	Unit		
	Static							
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V,I _D =-250uA	-100			V		
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ,I _D =-250uA	-1		-3	V		
Igss	Gate Leakage Current	V _{DS} =0V,V _{GS} =±25V			±100	nA		
		V _{DS} =-100V,V _{GS} =0V			-1			
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-80V,V _{GS} =0V, T _J =125°C			-10	uA		
ls	Continuous Source Current	V _G =V _D =0V.			-10			
Ism	Pulsed Source Current	Force Current			-20	A		
_	Drain-Source On-Resistance	V _{GS} =-10V,I _D =-6A		115	140	mΩ		
R _{DS(on)}		V _{GS} =-4.5V,I _D =-3A		130	170	mΩ		
Vsd	Diode Forward Voltage	V _{GS} =0V,I _S =-1A			-1.2	V		
		Dynamic						
Qg	Total Gate Charge	V _{DS} =-50V,V _{GS} =-10V,		40.4	70			
Q _{gs}	Gate-Source Charge	I _D =-6A		7.7	15	nC		
Q _{gd}	Gate-Drain Charge	7		6.6	13			
Ciss	Input Capacitance	V _{DS} =-30V,V _{GS} =0V,		2250	3900			
Coss	Output Capacitance	f=1MHz		130	250	pF		
Crss	Reverse Transfer Capacitance	7		90	180			
t _{d(on)}				27	54			
tr	Turn-On Time	$V_{DD} = -30V, I_{D} = -1A,$		12	24			
t _{d(off)}		VGS10V,RG-012		150	300	ns		
t _f	Turn-Off Time			45	90			
Rg	Gate Resistance	V _{DS} =0V,V _{GS} =0V, f=1MHz		10		Ω		



LMPDD0903DF Rev. 1.0

Typical Performance Characteristics



Typical Performance Characteristics(continue)



Gate Charge Test Circuit & Waveform









Package Dimension:



TO-252-2L PLASTIC PACKAGE







Dimensions					
	Millimeters		Inches		
SYMBOL	MIN	MAX	MIN	MAX	
Α	2.200	2.400	0.087	0.094	
A1	0.000	0.127	0.000	0.005	
В	1.350	1.650	0.053	0.065	
b	0.500	0.700	0.020	0.028	
b1	0.700	0.900	0.028	0.035	
С	0.430	0.580	0.017	0.023	
c1	0.430	0.580	0.017	0.023	
D	6.350	6.650	0.250	0.262	
D1	5.200	5.400	0.205	0.213	
E	5.400	5.700	0.213	0.224	
е		2.300 TYP		0.091 TYP	
e1	4.500	4.700	0.177	0.185	
L	9.500	9.900	0.374	0.390	
L1	2.550	2.900	0.100	0.114	
L2	1.400	1.780	0.055	0.070	
L3	0.600	0.900	0.024	0.035	
V	3.800	REF		0.150 REF	

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