10V Drive Nch MOS FET RDX060N60

Structure

Silicon N-channel MOS FET

●Features

- 1) Low on-resistance.
- 2) Low input capacitance.
- 3) Excellent resistance to damage from static electricity.

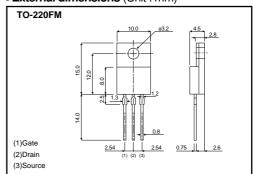
Applications

Switching

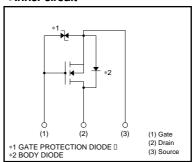
Packaging specifications

	Package	Bulk
Type	Code	_
	Basic ordering unit (pieces)	500
RDX060N60		0

●External dimensions (Unit : mm)



Inner circuit



● Absolute maximum ratings (Ta=25°C)

Parameter		Symbol		Limits	Unit	
Drain-source voltage		V _{DSS}		600	V	
Gate-source voltage		V _{GSS}		±30	V	
Drain current	Continuous	ΙD	*1	±6	Α	
Drain current	Pulsed	I _{DP}	*2	±24	Α	
Source current (Body diode)	Continuous	Is		6	Α	
	Pulsed	Isp	*2	24	Α	
Avalanche current		I _{AS}	*3	6	Α	
Avalanche energy		Eas	*4	150	mJ	
Total power dissipation (Tc=25°C)		PD		40	W	
Channel temperature		Tch		150	°C	
Range of storage temperature		Tstg		-55 to +150	°C	

Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to case	Rth(ch-c)	3.125	°C/W

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Gate-source leakage	Igss	-	_	±10	μΑ	V _{GS} = ±25V, V _{DS} =0V
Drain-source breakdown voltage	$V_{(BR)\;DSS}$	600	_	_	V	I _D = 1mA, V _{GS} =0V
Zero gate voltage drain current	IDSS	_	_	25	μΑ	V _{DS} = 600V, V _{GS} =0V
Gate threshold voltage	V _{GS (th)}	2.0	_	4.0	V	V _{DS} = 10V, I _D = 1mA
Static drain-source on-state resistance	R _{DS (on)} *	-	0.9	1.2	Ω	I _D = 3.0A, V _{GS} = 10V
Forward transfer admittance	Y _{fs} *	2.5	4.3	_	S	V _{DS} = 10V, I _D = 3.0A
Input capacitance	Ciss	-	950	_	pF	V _{DS} = 25V
Output capacitance	Coss	-	110	_	pF	V _{GS} =0V
Reverse transfer capacitance	Crss	-	20	_	pF	f=1MHz
Turn-on delay time	t _{d (on)} *	-	20	_	ns	Vpp≒ 150V
Rise time	tr *	-	14	_	ns	ID= 3.0A VGS= 10V
Turn-off delay time	t _{d (off)} *	-	40	_	ns	VGS= 10V RL= 50Ω
Fall time	t _f *	-	28	_	ns	R _G =10Ω
Total gate charge	Qg *	-	25	_	nC	Vpp≒300V
Gate-source charge	Q _{gs} *	-	6.5	_	nC	V _{GS} = 10V
Gate-drain charge	Q _{gd} *	_	12	_	nC	I _D = 6A

*Pulsed

●Body diode characteristics (Source-drain) (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	Vsp*	-	_	1.5	V	I _S = 6A, V _{GS} =0V
Reverse recovery time	trr *	-	500	_	ns	I _{DR} = 6A, V _{GS} =0V
Reverse recovery charge	Qrr *	_	4.6	_	μC	di/dt= 100A / μs

^{*} Pulsed

Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any
 means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the
 product described in this document are for reference only. Upon actual use, therefore, please request
 that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or
 otherwise dispose of the same, no express or implied right or license to practice or commercially
 exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.

In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.

