Transistors

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.

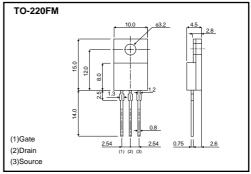
Applications

Switching

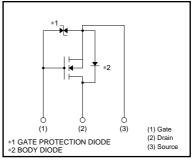
Packaging specifications

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

•External dimensions (Unit : mm)







Absolute maximum ratings (Ta=25°C)

		-			
Parameter		Symbo	bl	Limits	Unit
Drain-source voltage		VDSS		600	V
Gate-source voltage		Vgss		±30	V
Decision of	Continuous	ID	*1	±6	A
Drain current	Pulsed	IDP	*2	±24	A
Source current (Body diode)	Continuous	ls		6	A
	Pulsed	Isp	*2	24	A
Avalanche current		IAS	*3	6	A
Avalanche energy		Eas	*4	150	mJ
Total power dissipation (Tc=25	°C)	PD		40	W
Channel temperature		Tch		150	٥C
Range of storage temperature		Tstg		-55 to +150	°C
		D (10		1 5 101	

*1 Limited only by maximum temperature allowed *2 Pw ≤10µs, Duty cycle ≤1% *3 L ≒ 7.25mH Voo=90V Rg=25Ω *4 L ≒ 7.25mH Voo=90V Rg=25Ω starting Tch=25°C

Thermal resistance

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

Transistors

•Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Gate-source leakage	Igss	-	-	±10	μΑ	$V_{GS}=\pm 25V, V_{DS}=0V$
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	VGS (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	Vdd≒ 150V
Rise time	tr *	-	14	-	ns	$I_D = 3.0A$
Turn-off delay time	td (off) *	-	40	_	ns	Vgs= 10V R∟= 50Ω
Fall time	t _f *	-	28	-	ns	R _G =10Ω
Total gate charge	Qg *	-	25	-	nC	V _{DD} ≒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	Vsd *	-	-	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= 100Α / μs

* Pulsed

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