10V Drive Nch MOS FET RDX050N50

●Structure

Silicon N-channel MOS FET

● Features

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

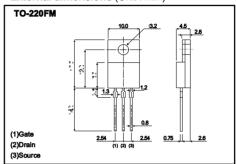
Applications

Switching

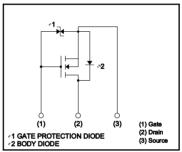
Packaging specifications

	Package	Bulk
Туре	Code	_
	Basic ordering unit (pieces)	500
RDX050N50		0

■External dimensions (Unit : mm)



●Inner circuit



●Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol		Limits	Unit	
Drain-source voltage	Voss		500	V	
Gate-source voltage	VGSS		±30	٧	
Drain current	Continuous	lь	•1	±5	A
Drain current	Pulsed	lрь	۰2	±20	Α
Source current	Continuous	ls		5	Α
(Body diode)	Pulsed	Isp	v2	20	Α
Avalanche current	las	٠3	5	Α	
Avalanche energy	Eas	v4	46	mJ	
Total power dissipation (Tc=2	Po		35	W	
Channel temperature	Tch		150	°C	
Range of storage temperature	Tstg		-55 to +150	ပ္	

¹ Limited only by maximum temperature allowed v3 L \(\) 3.2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 4 L \(\) 3.2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\ \(\) Voc=90V \\ \(\) Rg=25\(\) 2 \\ \(\) 2 mH \\(\) 2

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to case	Rth(ch-c)	3.57	°C/W

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Gate-source leakage	lgss	_	_	±10	μA	V _{GS} = ±25V, V _{DS} =0V
Drain-source breakdown voltage	V(BR) DSS	500	_	_	٧	I _D = 1mA, V _{GS} =0V
Zero gate voltage drain current	Ipss	_	_	25	μA	V _{DS} = 500V, V _{GS} =0V
Gate threshold voltage	VGS (th)	2.0	_	4.0	٧	V _{DS} = 10V, I _D = 1mA
Static drain-source on-state resistance	RDS (on)	_	1.1	1.5	Ω	I _D = 2.5A, V _{GS} = 10V
Forward transfer admittance	Yfs e	2.0	3.0	-	S	V _{DS} = 10V, I _D = 2.5A
Input capacitance	Ciss	_	500	_	pF	V _{DS} = 25V
Output capacitance	Coss	_	100	_	pF	V _{GS} =0V
Reverse transfer capacitance	Crss	_	25	_	pF	f=1MHz
Turn-on delay time	td (on)	_	15	_	ns	VDD= 150V
Rise time	tr	_	20	_	ns	I _D = 2.5A V _{GS} = 10V
Turn-off delay time	td (off) "	_	40	_	ns	RL= 60Ω
Fall time	tr	_	28	_	ns	Rg=10Ω
Total gate charge	Qg "	_	16	-	nC	V _{DD} =250V, V _{GS} =10V
Gate-source charge	Qgs	_	4	_	nC	I _D = 5A
Gate-drain charge	Q _{gd} "	-	8.5	-	nC	RL= 50Ω. Rg= 10Ω

Pulsed

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

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	Vsp ·	_	_	1.5	٧	Is= 5A, V _{GS} =0V
Reverse recovery time	trr	_	340	_	ns	I _{DR} = 5A, V _{GS} =0V
Reverse recovery charge	Qп	_	2.2	_	μC	di/dt= 100A / μs

[·] Pulsed

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