Silicon N Channel Power MOSFET

Description

The HXN0360 is n-channel power MOSFET are produced using high cell density , Trench MOSFET technology.

This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application, power management.

Features

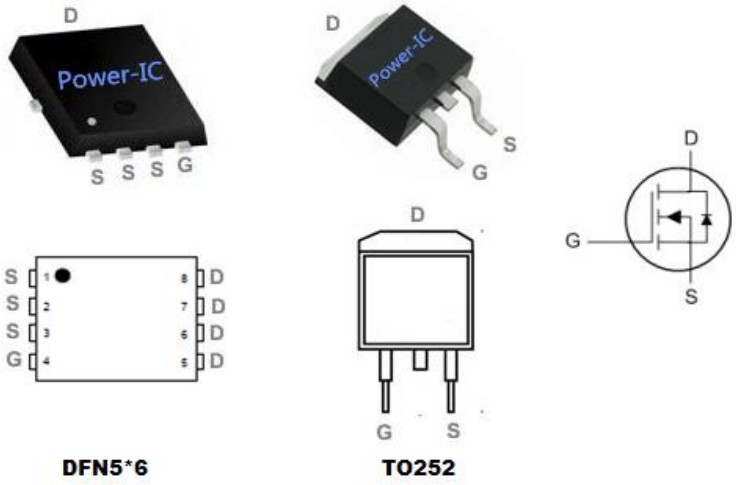
- Latest Trench Power MOSFET technology
- Low On-state Resistance
- High Current Density
- Low Gate Charge
- 100% UIS Test

Product Summary

- BVDS≥30V
- RDS(ON)≤9mΩ @VGS=10V
- RDS(ON)≤11.5mΩ @VGS=4.5V

Applications

- Motor Driver
- Power Management



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1、Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_{DS}	Drain-source voltage (V_{GS} = 0)	30	V
V_{GS}	Gate-source voltage	±20	V
I_D(1)	Drain current (continuous) at TC = 25℃	60	A
I_{DM}(2)	Drain current (pulsed)	240	A
P_D	Power dissipation at TC = 25℃	80	W
E_{AS}(3)	Single pulse avalanche energy	200	mJ
Tj	Operating junction temperature	-55 to 150	℃

1. Current limited by package
2. Pulse width limited by safe operating area
3. Starting Tj= 25 ℃， ID= 20A, VDD= 30V，L=1mH

2、Thermal data

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-Ambient		85		℃/ W
$R_{\theta JC}$	Thermal Resistance Junction-Case		70		℃/ W

3、Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	Drain-source breakdown	I_D=250μA, V_{GS}= 0	30			V
I_{DSS}	Zero gate voltage drain	V_{DS}=Max rating			1	μA
I_{GSS}	Gate body leakage current	V_{GS} =±20V			±100	nA
$V_{GS(th)}$	Gate threshold voltage	V_{DS}= V_{GS}	1	1.6	2	V
$R_{DS(on)}$	Static drain-source on resistance	V_{GS}= 10V ， I_D=30A			9	mΩ
		V_{GS}= 4.5V ， I_D= 30A			11.5	mΩ

C_{iss}	Input capacitance	V_{DS} =15V		1600		pF
C_{oss}	Output capacitance	f = 1 MHz		180		pF
C_{rss}	Reverse transfer	V_{GS} = 0		90		pF
Q_g	Total gate charge	V_{DD} = 15V		20		nC
Q_{gs}	Gate-source charge	I_D =10A		9		nC
Q_{gd}	Gate-drain charge	V_{GS} =4.5V		7		nC
I_{SD}	Source-drain current				60	A
I_{SDM}(1)	Source-drain current (pulsed)				240	A
V_{SD}(2)	Forward on voltage	I_{SD} =60A, V_{GS} = 0			1.2	V

1. Pulse width limited by safe operating area
2. Pulsed: pulse duration=300μs, duty cycle 1.5%