

# **Isc N-Channel MOSFET Transistor**

## FDH45N50F

#### • FEATURES

- With TO-247 package
- · Low input capacitance and gate charge
- · Low gate input resistance
- · 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



#### APPLICATIONS

Switching applications

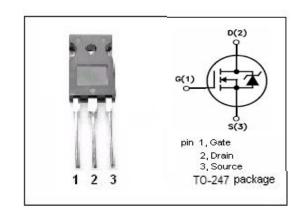


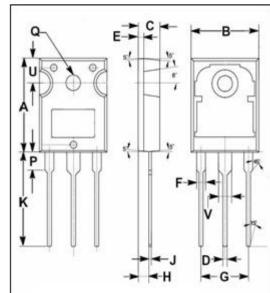
## • ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT	
V <sub>DSS</sub>	Drain-Source Voltage	500	V	
V <sub>GSS</sub>	Gate-Source Voltage	±30	V	
I <sub>D</sub>	Drain Current-Continuous @Tc=25℃ Tc=100℃	45 28.4	А	
I <sub>DM</sub>	Drain Current-Single Pulsed	180	А	
P <sub>D</sub>	Total Dissipation @Tc=25℃	625	W	
T <sub>ch</sub>	Max. Operating Junction Temperature	150	$^{\circ}\mathbb{C}$	
T <sub>stg</sub>	Storage Temperature	-55~150	$^{\circ}$ C	

#### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER		UNIT	
Rth(ch-c)	Channel-to-case thermal resistance	0.2	°C/W	
Rth(ch-a)	Channel-to-ambient thermal resistance	40	°C/W	





	mm		
DIM	MIN	MAX	
Α	19.80	20.20	
В	15.40	15.80	
C	4.90	5.10	
D	0.90	1.10	
E	1.40	1.60	
F	1.90	2.10	
G	10.80	11.00	
Н	2.40	2.60	
J	0.50	0.70	
K	19.50	20.50	
P	3.90	4.10	
Q	3.30	3.50	
U	5.20	5.40	
V	2.90	3.10	



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#### **ELECTRICAL CHARACTERISTICS**

T<sub>c</sub>=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	ТҮР	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> =0.25mA	500			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = ±30V; I <sub>D</sub> =0.25mA	3.0		5.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =22.5A		105	120	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±30V;V <sub>DS</sub> = 0V			±0.1	μА
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 500V; V <sub>GS</sub> = 0V;Tj=25°C V <sub>DS</sub> = 400V; V <sub>GS</sub> = 0V; Tj=125°C			25 250	μА
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =45A, V <sub>GS</sub> = 0 V			1.4	V

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