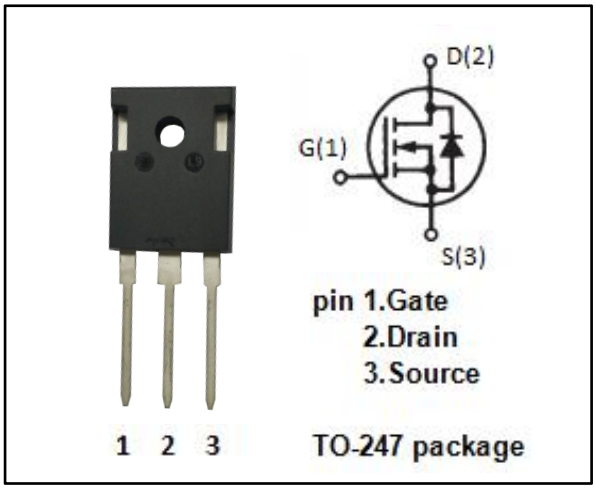
isc N-Channel MOSFET Transistor IXFH15N100Q3

• FEATURES

- Drain Source Voltage-
  : V_{DSS}=1000V(Min)
- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ =1.0Ω (Max)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



• APPLICATIONS

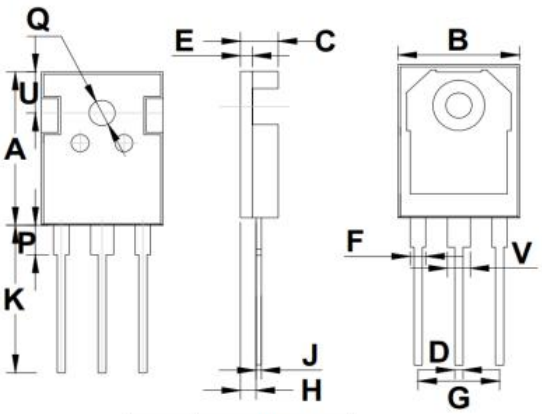
- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	1000	V
V_{GSS}	Gate-Source Voltage	±30	V
I_D	Drain Current-Continuous	15	A
I_{DM}	Drain Current-Single Pulsed	45	A
P_D	Total Dissipation	690	W
E_{AS}	T_C = 25°C	1.0	J
T_j	Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature	-55~150	℃

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.19	℃/W



DIM	MM MIN	MM MAX
A	19.80	20.20
B	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
H	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_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V; I_D= 1mA	1000	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=±30V; I_D=2.5mA	2.5	-	4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=7.5A	-	-	1.0	Ω
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±30V;V_{DS}= 0V	-	-	±0.1	μA
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 1000V; V_{GS}=0V;@Tc=25℃	-	-	25	μA

Dynamic Characteristics

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
C_{iss}	Input Capacitance	V_{GS} = 0V, V_{DS} = 25V, f = 1.0MHz	_	3750	-	pF
C_{oss}	Output Capacitance		_	240	-	
C_{rss}	Reverse Transfer Capacitance		_	30	-	

Resistive Switching Characteristics

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Q_g	Total Gate Charge	V_{DD} = 48V, I_D = 60A, V_{GS} = 10V	_	73	-	nC
Q_{gs}	Gate-Source Charge		_	16	-	
Q_{gd}	Gate-Drain Charge		_	27	-	
$t_{d(on)}$	Turn-on Delay Time	V_{DD} = 40V, I_D = 60A, R_G = 25Ω	_	35	-	ns
t_r	Turn-on Rise Time		_	36	-	
$t_{d(off)}$	Turn-off Delay Time		_	44	-	
t_f	Turn-off Fall Time		_	35	-	

Drain - Source Body Diode Characteristics

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
I_{SD}	Continuous Source Current	T_c = 25 ºC	-	-	15	A
I_{SM}	Pulsed Source Current		-	-	45	
V_{SD}	Diode Forward Voltage	I_{SD}= 15A; V_{GS}= 0V	-	-	1.4	V
t_{rr}	Reverse Recovery Time	I_F = 15A, di_F/dt = 100A /μs	-	850	-	ns
Q_{rr}	Reverse Recovery Charge		-	4.4	-	uC