

SiC N-Channel MOSFET

FEATURES

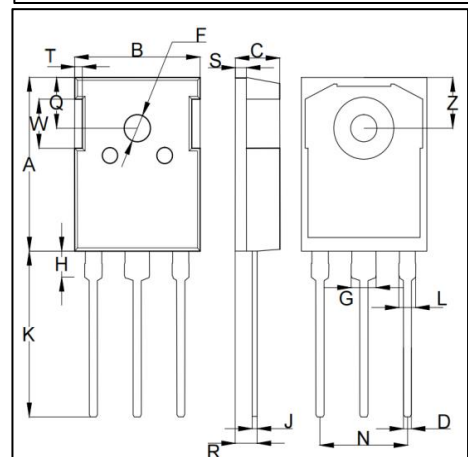
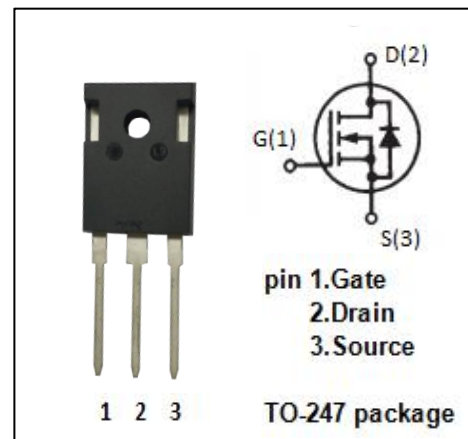
- High Blocking Voltage with Low On-Resistance
- $R_{DS(ON)} = 64m\Omega$ (TYP.) @ $V_{GS} = 20V$
- High Speed Switching with Low Capacitance
- Avalanche Ruggedness

APPLICATIONS

- Motor Drives
- Solar Inverters, UPS
- Down Hole Drilling
- Battery Chargers

Absolute Maximum Ratings($T_C=25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	1700	V
V_{GS}	Gate-Source voltage	-10/+22	V
I_D	Drain Current-Continuous	43	A
	Drain Current-Continuous @ $T_C=100^\circ C$	32	A
I_{DM}	Drain Current-Single Pluse	129	A
P_D	Total Dissipation @ $T_C=25^\circ C$	313	W
T_J	Max. Operating Junction Temperature	175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$



DIM	mm		
	MIN	TYP.	MAX
A	19.80	20.65	21.50
B	15.40	15.65	15.90
C	4.70	5.00	5.30
D	0.90	1.08	1.26
F	3.50	3.70	3.90
G	2.70	3.00	3.30
H	3.90	4.00	4.10
J	0.50	0.60	0.70
K	19.50	20.00	20.50
L	1.90	2.05	2.20
N	10.80	10.90	11.00
Q	6.00	6.15	6.30
R	2.90	3.10	3.30
S	1.80	2.00	2.20
T	2.15	2.25	2.35
W	4.90	5.00	5.10
Z	6.00	6.15	6.30

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.48	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}C$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1mA$	1700	--	--	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1mA$	1.8	3.0	--	V
$R_{DS(on)}$	Drain-Source On-stage Resistance	$V_{GS}=20V; I_D=20A; T_C=25^{\circ}C$	--	64	86	$m\Omega$
		$V_{GS}=20V; I_D=20A; T_C=150^{\circ}C$	--	104	--	
I_{GSS}	Gate Source Leakage Current	$V_{GS}=-10/+22V; V_{DS}=0V$	--	--	± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=1700V; V_{GS}=0V; T_C=25^{\circ}C$	--	--	10	μA
V_{SD}	Diode Forward Voltage	$I_{SD}=10A; V_{GS}=0V$	--	3.8	--	V
t_{rr}	Reverse Recovery Time	$V_R=1000V, V_{GS}=0V$ $I_D=25A$ $di/dt=100A/us$	--	15	--	ns
Q_{rr}	Reverse Recovery Charge		--	300	--	nC

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