

Isc N-Channel MOSFET Transistor

STW45NM50

• FEATURES

- 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

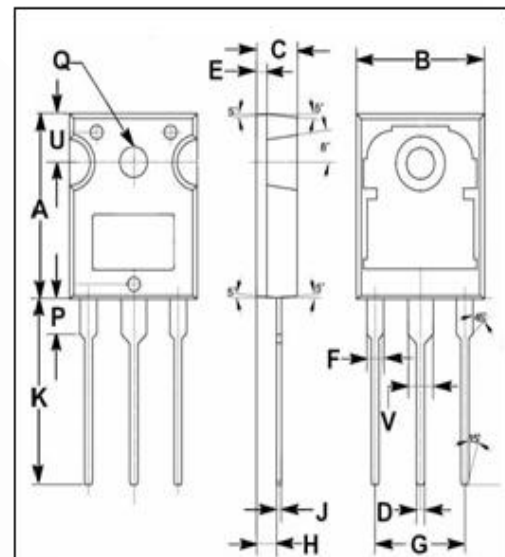
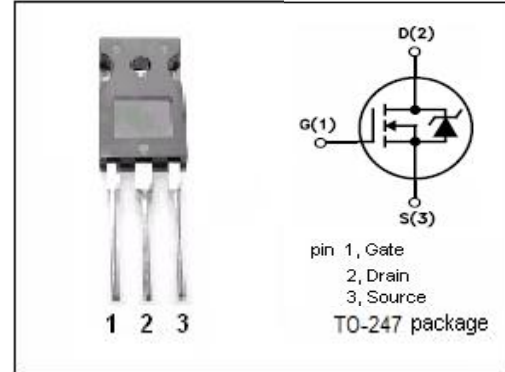
- The MDmesh™ family is very suitable for increasing power density of high voltage converters allowing system miniaturization and higher efficiencies.

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage	550	V
V _{GSS}	Gate-Source Voltage	±30	V
I _D	Drain Current-Continuous@T _c =25°C T _c =100°C	45 28.4	A
I _{DM}	Drain Current-Single Pulsed	180	A
P _D	Total Dissipation	417	W
T _{ch}	Max. Operating Junction Temperature	150	°C
T _{stg}	Storage Temperature	-65~150	°C

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.3	°C/W
Rth(ch-a)	Channel-to-ambient thermal resistance	30	°C/W



DIM	mm	
	MIN	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°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D = 0.25mA	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =±30V; I _D =0.25mA	3		5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =22.5A		80	100	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0V			±0.1	μA
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 550V; V _{GS} = 0V; T _J =25°C T _J =125°C			10 100	μA
V _{SDF}	Diode forward voltage	I _{SD} =45A, V _{GS} = 0 V			1.5	V