

**isc N-Channel MOSFET Transistor**
**STP12NM50FP**
**• FEATURES**

- Drain-source on-resistance:  
 $R_{DS(on)} \leq 0.35\Omega @ 10V$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

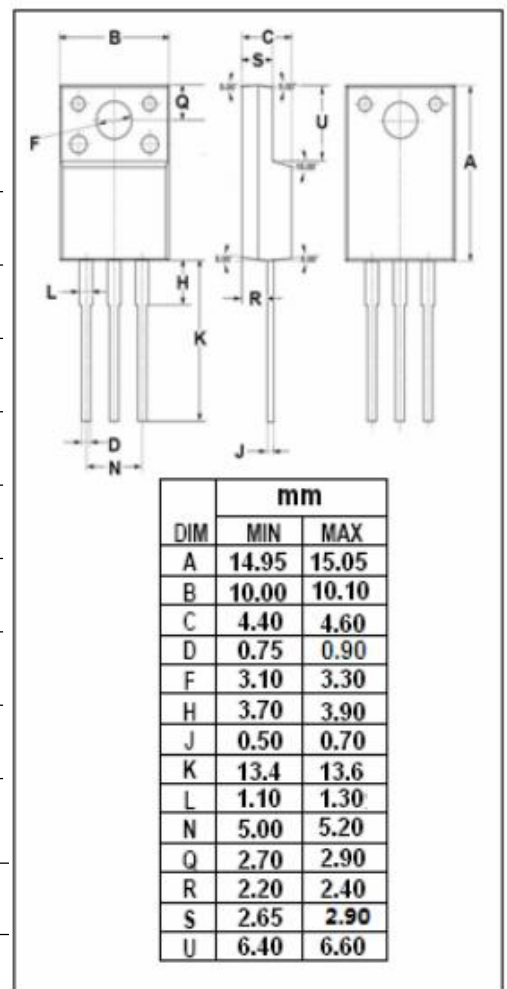
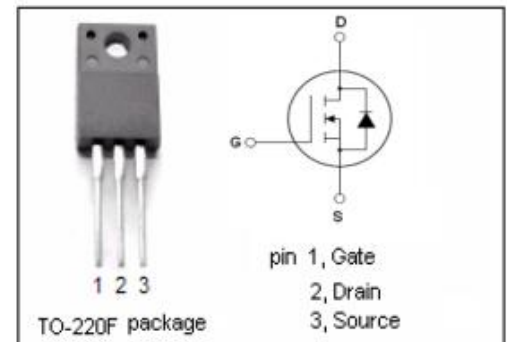
- Be suitable for increasing power density of high voltage converters allowing system miniaturization and higher efficiencies.

**• ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ C$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous	12	A
$I_{DM}$	Drain Current-Single Pulsed	48	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	35	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-65~150	$^\circ C$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.57	$^\circ C/W$



**isc N-Channel MOSFET Transistor****STP12NM50FP****ELECTRICAL CHARACTERISTICS**T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 250 μ A	500			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 250 μ A	3		5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =6A			0.35	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0V			±100	nA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =500V; V <sub>GS</sub> = 0V			1	μ A
		V <sub>DS</sub> =500V; V <sub>GS</sub> = 0V; T <sub>j</sub> =125°C			10	
V <sub>SD</sub>	Diode forward on voltage	I <sub>SD</sub> =12A, V <sub>GS</sub> = 0 V			1.5	V

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