

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

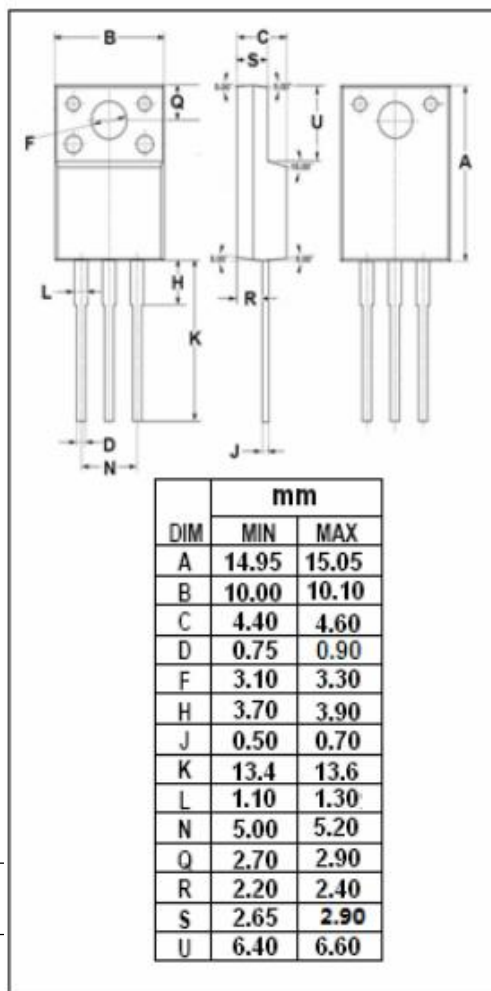
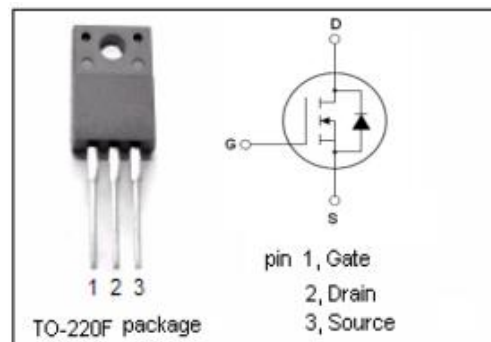
- Be suitable for increasing power density of high voltage converters allowing system miniaturization and higher efficiencies.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 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	$^\circ C/W$



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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 = 250 μ A	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D = 250 μ A	3		5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =6A			0.35	Ω
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0V			±100	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =500V; V _{GS} = 0V			1	μ A
		V _{DS} =500V; V _{GS} = 0V; T _J =125°C			10	
V _{SD}	Diode forward on voltage	I _{SD} =12A, V _{GS} = 0 V			1.5	V

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