

isc N-Channel Mosfet Transistor

STF14NM50N

• FEATURES

- Drain Current $I_D = 12A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

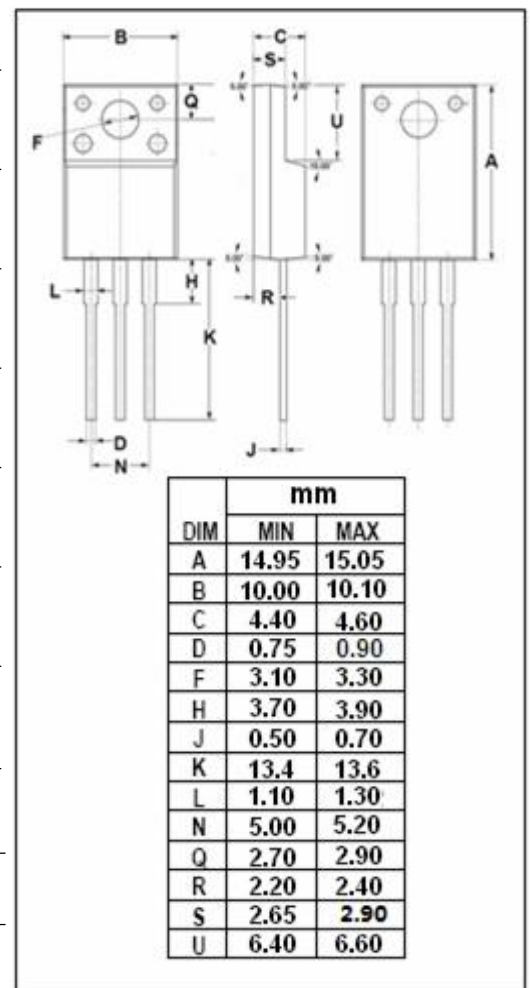
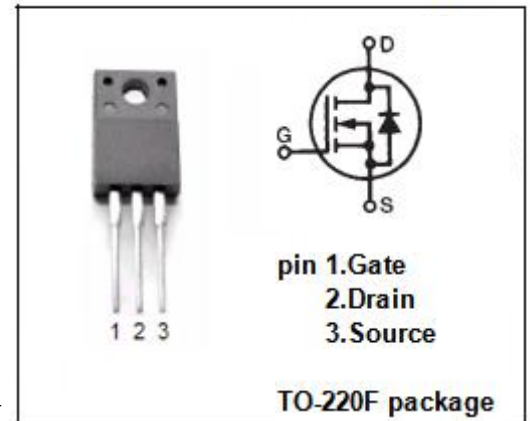
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 25	V
I_D	Drain Current-continuous@ $T_C = 25^\circ C$	12	A
I_{DM}	Pulse Drain Current	48	A
P_{tot}	Total Dissipation@ $T_C = 25^\circ C$	25	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	5	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=1\text{mA}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\mu\text{A}$	2		4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=6\text{A}$			320	$\text{m}\Omega$
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 25\text{V}$; $V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=\text{Max rating}$			1	μA
		$V_{DS}=\text{Max rating}$; $T_c=125^{\circ}\text{C}$			100	
V_{SD}	Diode Forward On-Voltage	$I_S=12\text{A}$; $V_{GS}=0$			1.6	V

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