

**isc N-Channel MOSFET Transistor**

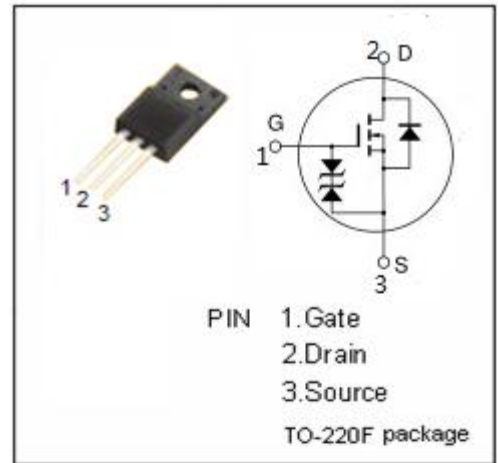
**2SK2996**

**DESCRIPTION**

- Drain Current  $I_D = 10A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 600V(\text{Min})$
- Fast Switching Speed

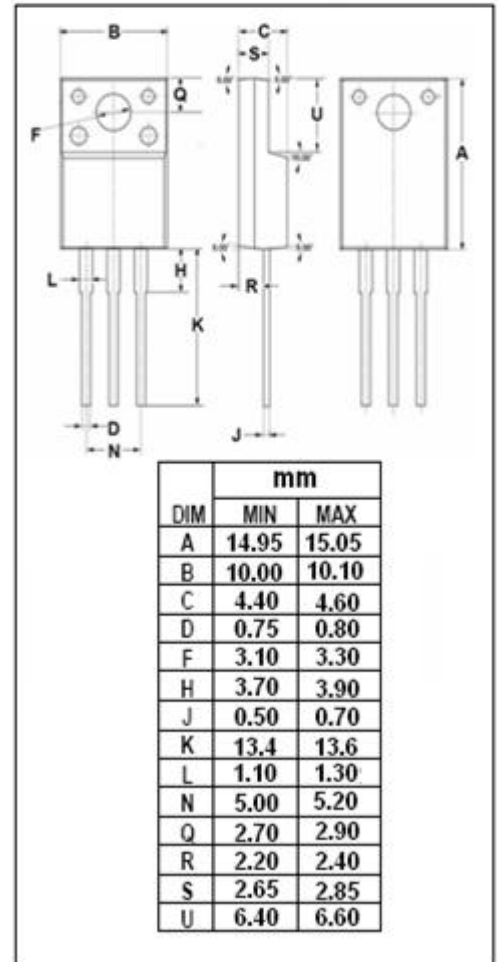
**APPLICATIONS**

- Switching Regulators
- DC-DC Converter,
- Motor Control



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	600	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	10	A
$I_{D(puls)}$	Pulsed Drain Current	30	A
$P_{tot}$	Total Dissipation@ $T_C = 25^\circ C$	45	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	2.87	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$

## isc N-Channel Mosfet Transistor

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=10\text{mA}$	600			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10\text{V}; I_D=1\text{mA}$	2.0		4.0	V
$V_{SD}$	Diode Forward On-Voltage	$I_S=10\text{A}; V_{GS}=0$			1.7	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=5\text{A}$		0.74	1.0	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}= \pm 25\text{V}; V_{DS}=0$			$\pm 10$	$\mu\text{A}$
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=600\text{V}; V_{GS}=0$			100	$\mu\text{A}$
$C_{iss}$	Input Capacitance	$V_{DS}=20\text{V};$		1500		pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{GS}=0\text{V};$		13		
$C_{oss}$	Output Capacitance	$f_T=1\text{MHz}$		140		
$t_r$	Rise Time	$V_{GS}=10\text{V};$		15		ns
$t_{on}$	Turn-on Time	$I_D=5\text{A};$		55		
$t_f$	Fall Time	$V_{DD}=300\text{V};$		27		
$t_{off}$	Turn-off Time	$R_L=60\Omega$		145		