

# isc N-Channel MOSFET Transistor

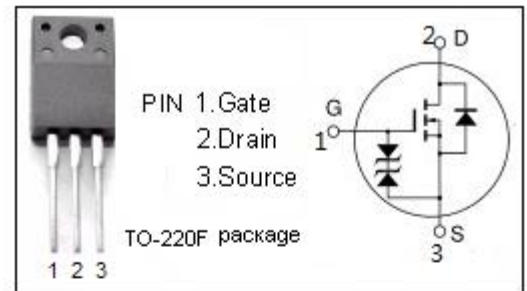
# 2SK2350

## DESCRIPTION

- Drain Current  $I_D = 8.5A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 200V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

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

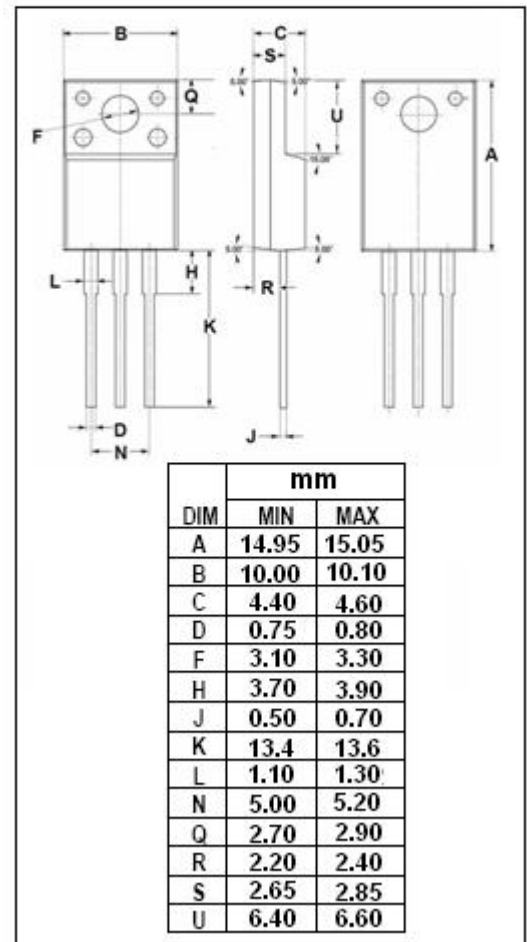


## ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	200	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	8.5	A
$I_{D(puls)}$	Pulsed Drain Current	34	A
$P_{tot}$	Total Dissipation@ $T_C = 25^\circ C$	30	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	4.16	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 10mA	200			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = 10V; I <sub>D</sub> =1mA	1.5		3.5	V
V <sub>SD</sub>	Diode Forward On-Voltage	I <sub>S</sub> =10A; V <sub>GS</sub> = 0			2.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 5A		0.26	0.4	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ± 16V; V <sub>DS</sub> = 0			± 10	μA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 200V; V <sub>GS</sub> = 0			100	μA
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =10V;		700		pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>GS</sub> =0V;		80		
C <sub>oss</sub>	Output Capacitance	f <sub>r</sub> =1MHz		270		
t <sub>r</sub>	Rise Time	V <sub>GS</sub> =10V;		15		ns
t <sub>on</sub>	Turn-on Time	I <sub>D</sub> =5A;		25		
t <sub>f</sub>	Fall Time	V <sub>DD</sub> =100V;		15		
t <sub>off</sub>	Turn-off Time	R <sub>L</sub> =20 Ω		70		

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