

isc N-Channel MOSFET Transistor
2SK3591
• FEATURES

- Drain-source on-resistance:
 $R_{DS(on)} \leq 41m\Omega @ 10V$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

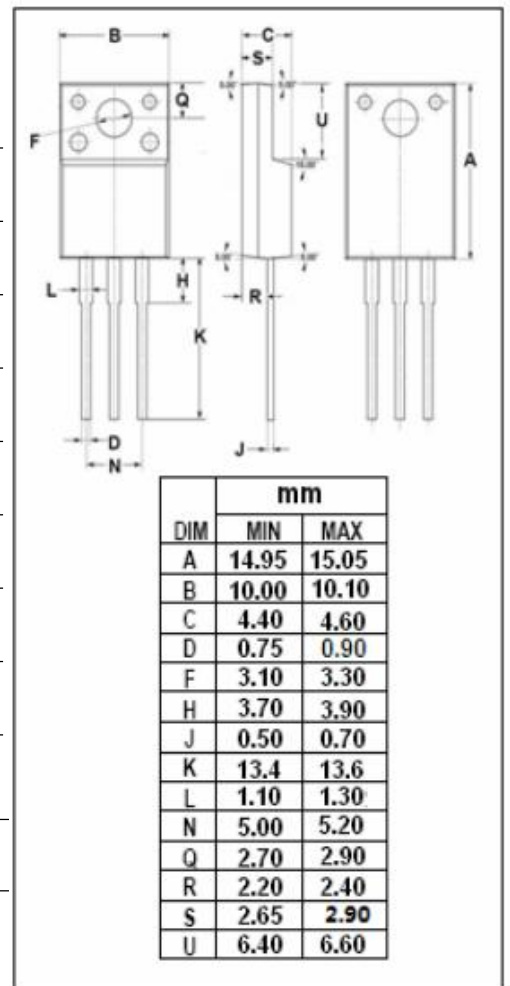
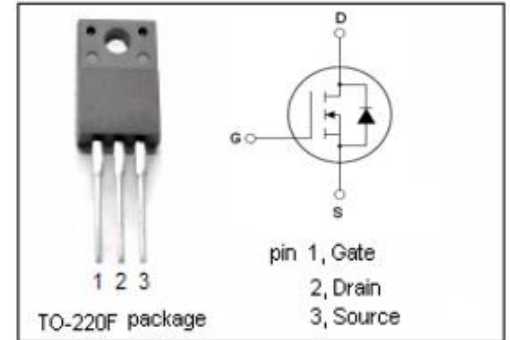
- High fast switching Power Supply

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	40	A
I_{DM}	Drain Current-Single Pulsed	160	A
P_D	Total Dissipation @ $T_c=25^\circ C$	70	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.79	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=250\ \mu\text{A}$	150			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\ \mu\text{A}$	3		5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=20A$			41	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V; V_{DS}=0V$			± 100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=150V; V_{GS}=0V$			25	μA
		$V_{DS}=120V; V_{GS}=0V; T_J=150^\circ\text{C}$			250	
V_{SD}	Diode forward voltage	$I_F=40A, V_{GS}=0V$			1.65	V

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