

**isc N-Channel MOSFET Transistor**
**2SK2117**
**DESCRIPTION**

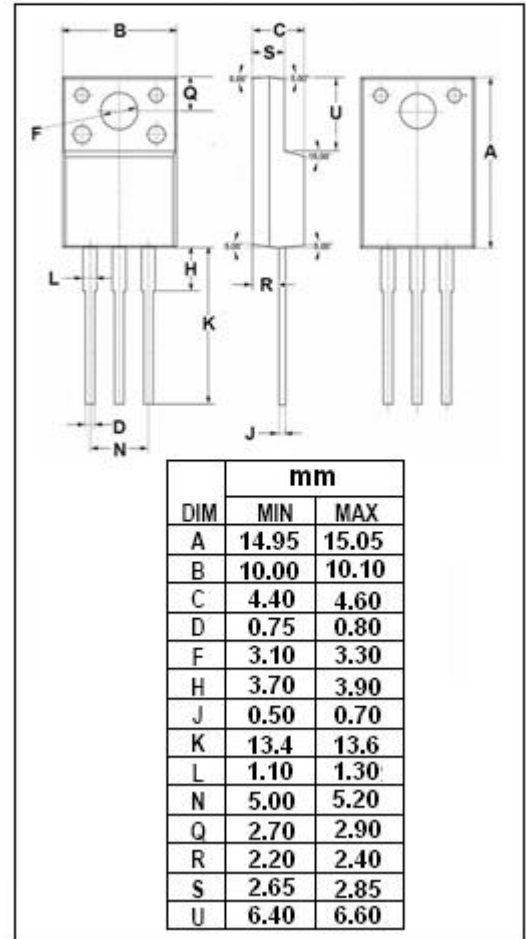
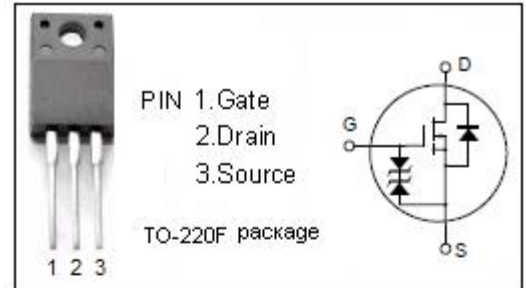
- Drain Current  $-I_D = 7A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Switching regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	7	A
$I_{D(\text{puls})}$	Pulsed Drain Current	28	A
$P_{\text{tot}}$	Total Dissipation@ $T_C = 25^\circ C$	35	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{\text{stg}}$	Storage Temperature Range	-55~150	$^\circ C$



## isc N-Channel Mosfet Transistor

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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	500			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = 10V; I <sub>D</sub> =1mA	2.0		3.0	V
V <sub>SD</sub>	Diode Forward On-voltage	I <sub>S</sub> = 7.0A; V <sub>GS</sub> = 0		0.95		V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 4.0A		0.7	0.9	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0			± 10	μA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 400V; V <sub>GS</sub> = 0			250	μA
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =10V;		1050		pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>GS</sub> =0V;		40		
C <sub>oss</sub>	Output Capacitance	f <sub>r</sub> =1MHz		280		
t <sub>r</sub>	Rise Time	I <sub>D</sub> =4A; V <sub>DD</sub> =10V; R <sub>L</sub> =7.5 Ω		55		ns
t <sub>d(on)</sub>	Turn-on Delay Time			15		
t <sub>f</sub>	Fall Time			40		
t <sub>d(off)</sub>	Turn-off Delay Time			95		

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