

**iscN-Channel MOSFET Transistor**
**2SK4013**
**• FEATURES**

- Low drain-source on-resistance:  
 $R_{DS(ON)} = 1.7\Omega$  (MAX)
- Enhancement mode:  
 $V_{th} = 2$  to  $4$  V ( $V_{DS} = 10$  V,  $I_D = 1.0$  mA)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

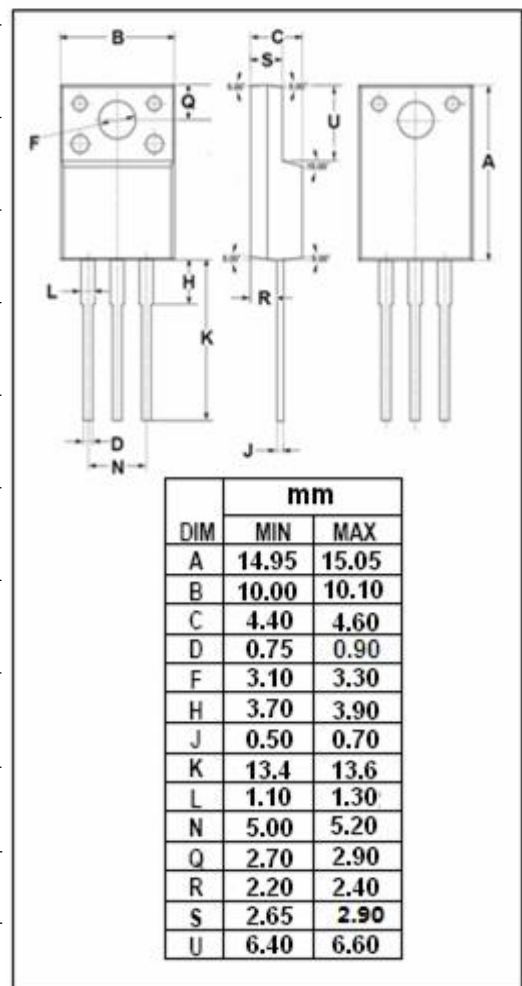
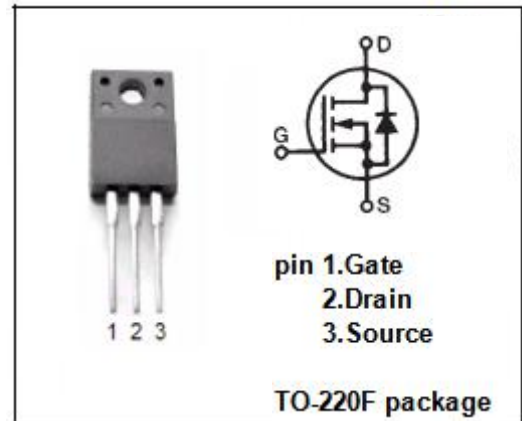
- Switching Voltage Regulators

**• ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	800	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous	6	A
$I_{DM}$	Drain Current-Single Pulsed	18	A
$P_D$	Total Dissipation @ $T_c = 25^\circ\text{C}$	45	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	2.78	$^\circ\text{C/W}$



## iscN-Channel MOSFET Transistor

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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 10mA	800			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = 10V; I <sub>D</sub> =1.0mA	2		4	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =3A			1.7	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±25V; V <sub>DS</sub> = 0V			±10	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =640V; V <sub>GS</sub> = 0V			100	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>DR</sub> =3A, V <sub>GS</sub> = 0 V			1.7	V

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