

isc N-Channel MOSFET Transistor

2SK1643

DESCRIPTION

- Drain Current $-I_D=5A @ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}=900$ (Min)
- Fast Switching Speed

APPLICATIONS

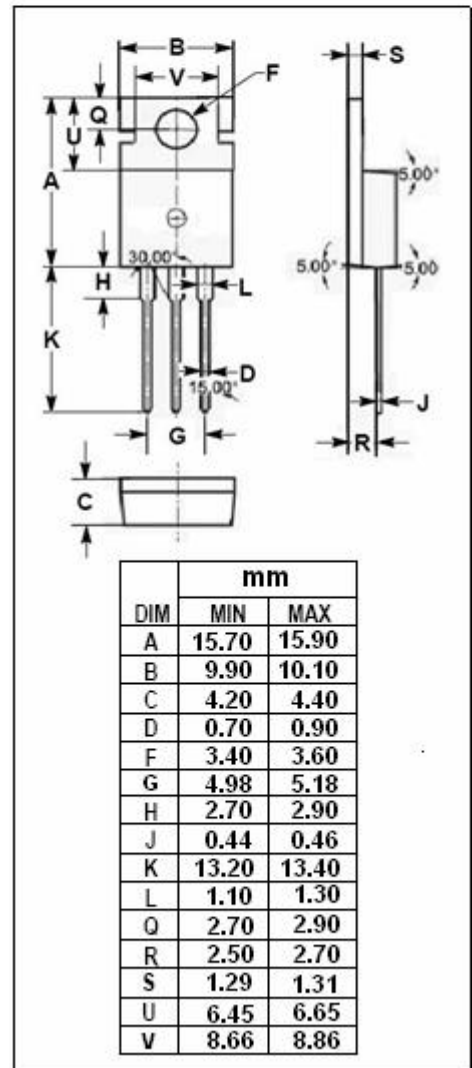
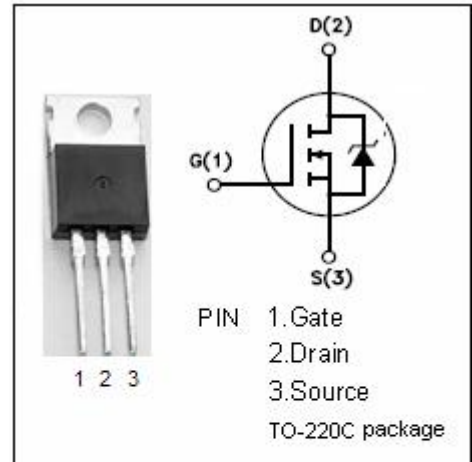
- high speed high current switching applications
- DC-DC converter and motor driver applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	900	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous@ $T_C=25^\circ C$	5	A
P_{tot}	Total Dissipation@ $T_C=25^\circ C$	125	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	1.00	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	83.3	$^\circ C/W$



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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=10\text{mA}$	900			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10\text{V}; I_D=1\text{mA}$	1.5		3.5	V
$R_{DS(on)}$	Drain-Source On-stage Resistance	$V_{GS}=10\text{V}; I_D=2\text{A}$		2.5	2.8	Ω
I_{GSS}	Gate Source Leakage Current	$V_{GS}= \pm 25\text{V}; V_{DS}= 0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=720\text{V}; V_{GS}= 0$			300	μA
V_{SD}	Diode Forward Voltage	$I_F=4\text{A}; V_{GS}=0$			1.9	V
t_r	Rise time	$V_{GS}=10\text{V}; I_D=2\text{A}; R_L=200\ \Omega$		18	35	ns
t_{on}	Turn-on time			30	60	ns
t_f	Fall time			12	25	ns
t_{off}	Turn-off time			70	140	ns