

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
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

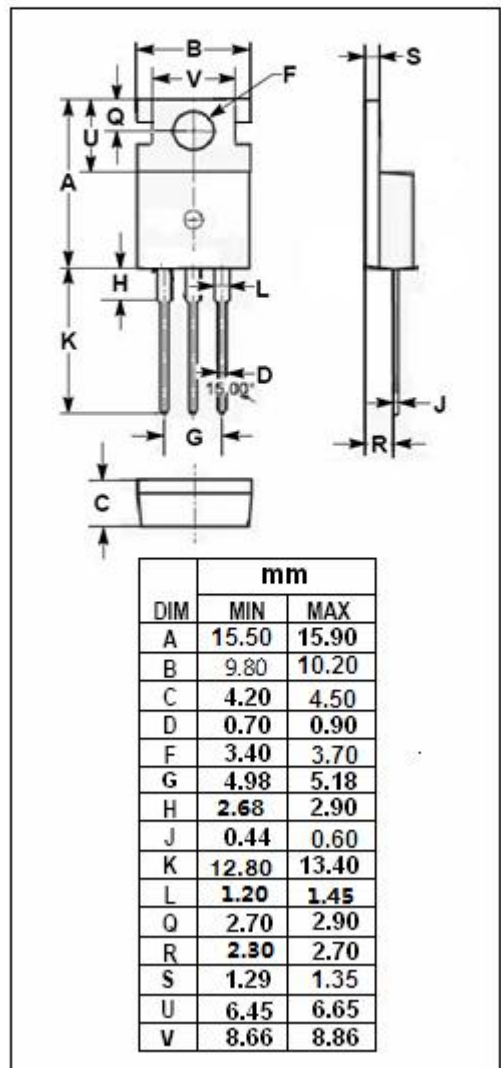
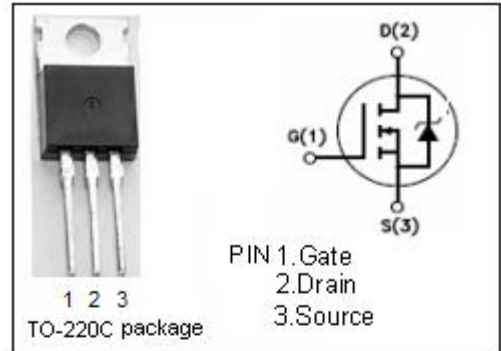
- high speed high current switching applications
- DC-DC converter and motor driver applications

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°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0; I _D = 10mA	900			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =10V; I _D =1mA	1.5		3.5	V
R _{DS(on)}	Drain-Source On-stage Resistance	V _{GS} =10V; I _D =2A		2.5	2.8	Ω
I _{GSS}	Gate Source Leakage Current	V _{GS} = ±25V; V _{DS} = 0			± 100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =720V; V _{GS} = 0			300	uA
V _{SD}	Diode Forward Voltage	I _F =4A; V _{GS} =0			1.9	V
tr	Rise time	V _{GS} =10V; I _D =2A; R _L =200 Ω		18	35	ns
ton	Turn-on time			30	60	ns
tf	Fall time			12	25	ns
toff	Turn-off time			70	140	ns

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