

isc N-Channel MOSFET Transistor

2SK1940

DESCRIPTION

- Drain Current $-I_D = 12A @ T_C = 25^{\circ}C$
- Drain Source Voltage-
: $V_{DSS} = 600V (Min)$
- Fast Switching Speed

APPLICATIONS

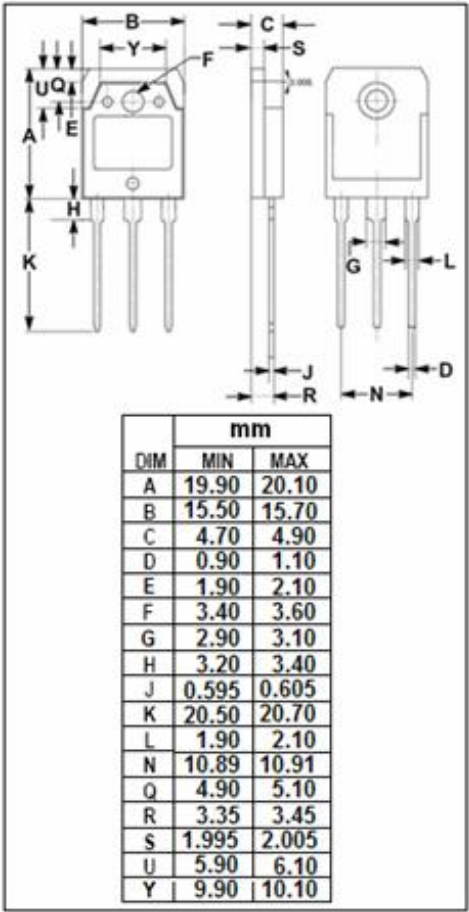
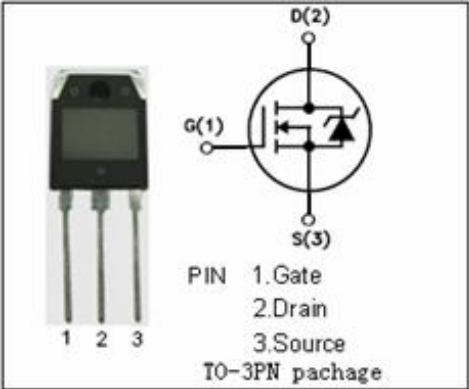
- Switching regulator
- UPS
- DC-DC converters
- General purpose power amplifier

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

SYMBOL	ARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS} = 0$)	600	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous@ $T_C = 25^{\circ}C$	12	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	1.25	$^{\circ}C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	35	$^{\circ}C/W$



isc N-Channel Mosfet Transistor**2SK1940**• ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=1\text{mA}$	600			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=1\text{mA}$	2.5		3.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=4\text{A}$			1.2	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=600\text{V}; V_{GS}=0$		10	500	μA
C_{iss}	Input capacitance	$V_{DS}=25\text{V}; V_{GS}=0\text{V}; f_T=1\text{MHz}$		2500	3800	pF
C_{rss}	Reverse transfer capacitance			50	75	
C_{oss}	Output capacitance			220	330	
t_r	Rise time	$V_{GS}=10\text{V}; I_D=6\text{A};$ $V_{DD}=300\text{V};$ $R_L=10\Omega$		60	90	ns
t_{on}	Turn-on time			30	45	
t_f	Fall time			80	120	
t_{off}	Turn-off time			140	210	