

isc N-Channel MOSFET Transistor

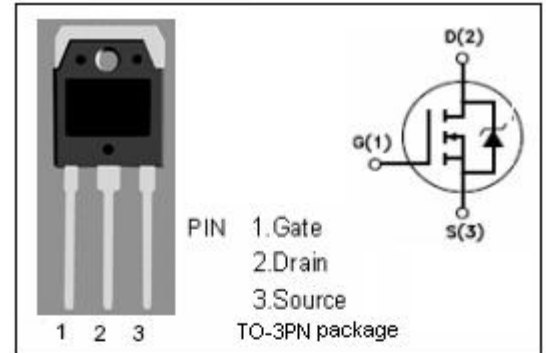
2SK1940

DESCRIPTION

- Drain Current $-I_D = 12A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 600V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

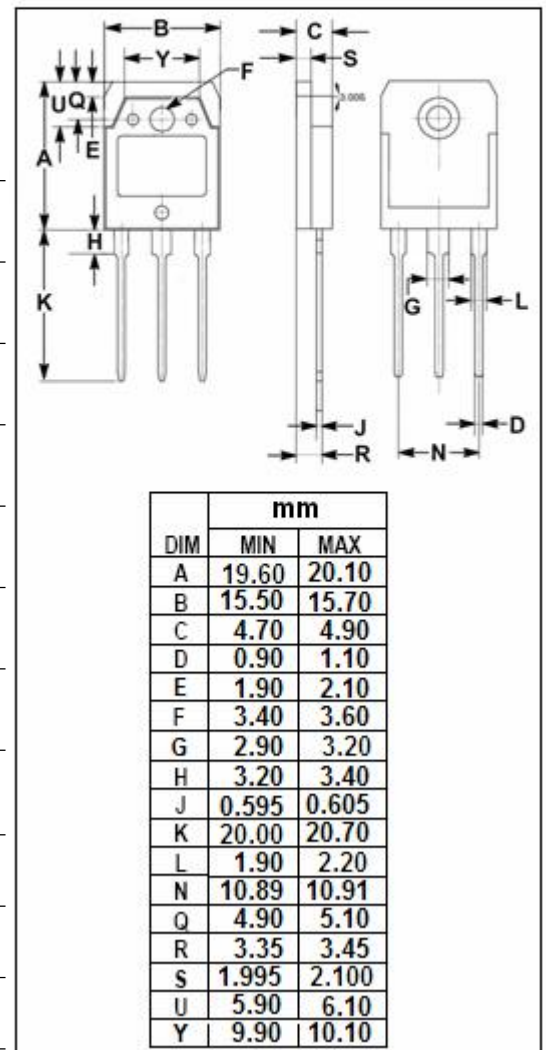
APPLICATIONS

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



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

SYMBOL	PARAMETER	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	$^\circ C/W$

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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D = 1mA	600			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =1mA	2.5		3.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 4A			1.2	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±30V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 600V; V _{GS} = 0		10	500	μA
C _{iss}	Input capacitance	V _{DS} =25V; V _{GS} =0V; f _r =1MHz		2500	3800	pF
C _{rss}	Reverse transfer capacitance			50	75	
C _{oss}	Output capacitance			220	330	
t _r	Rise time	V _{GS} =10V; I _D =6A; V _{DD} =300V; R _L =10 Ω		60	90	ns
t _{on}	Turn-on time			30	45	
t _f	Fall time			80	120	
t _{off}	Turn-off time			140	210	

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