

isc N-Channel MOSFET Transistor

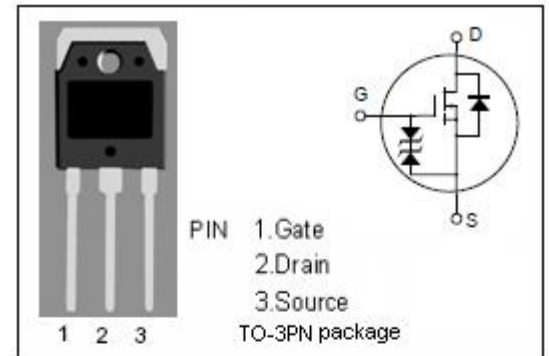
2SK2081-01

DESCRIPTION

- Drain Current $I_D = 12A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching regulators
- UPS
- DC-DC Converters
- General purpose power amplifier

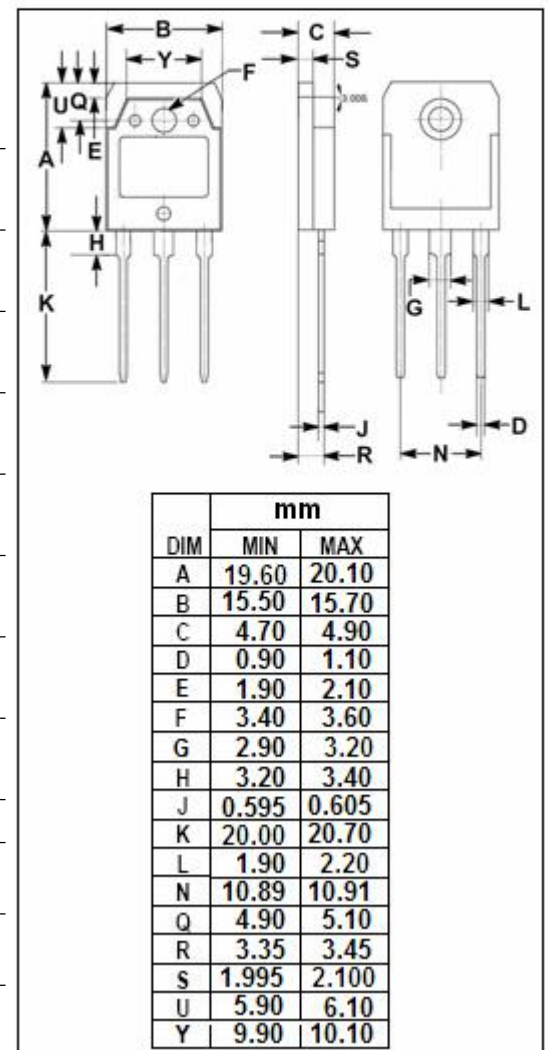


ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	500	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous@ $T_C = 25^\circ C$	12	A
$I_{D(puls)}$	Pulsed Drain Current	48	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	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	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =1mA	2.5	3.0	3.5	V
V _{SD}	Diode Forward on-Voltage	I _F = 2I _{DR} ; V _{GS} = 0		1.3	1.95	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 6A		0.45	0.6	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±30V; V _{DS} = 0			± 100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 500V; V _{GS} = 0			500	μA
C _{iss}	Input Capacitance	V _{DS} =25V;		2200	3300	pF
C _{rss}	Reverse Transfer Capacitance	V _{GS} =0V;		55	85	
C _{oss}	Output Capacitance	f _r =1MHz		230	345	
t _r	Rise Time	V _{GS} =10V;		55	85	ns
t _{d(on)}	Turn-on Delay Time	I _D =12A;		25	40	
t _f	Fall Time	V _{DD} =300V;		60	90	
t _{d(off)}	Turn-off Delay Time	R _L =10 Ω		110	165	

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