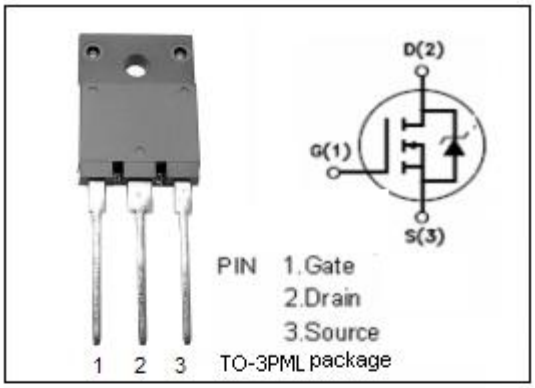
isc N-Channel MOSFET Transistor 2SK2052

DESCRIPTION

- Drain Current I_D= 10A@ T_C=25℃
- Drain Source Voltage-
  : V_{DSS}= 500V(Min)
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

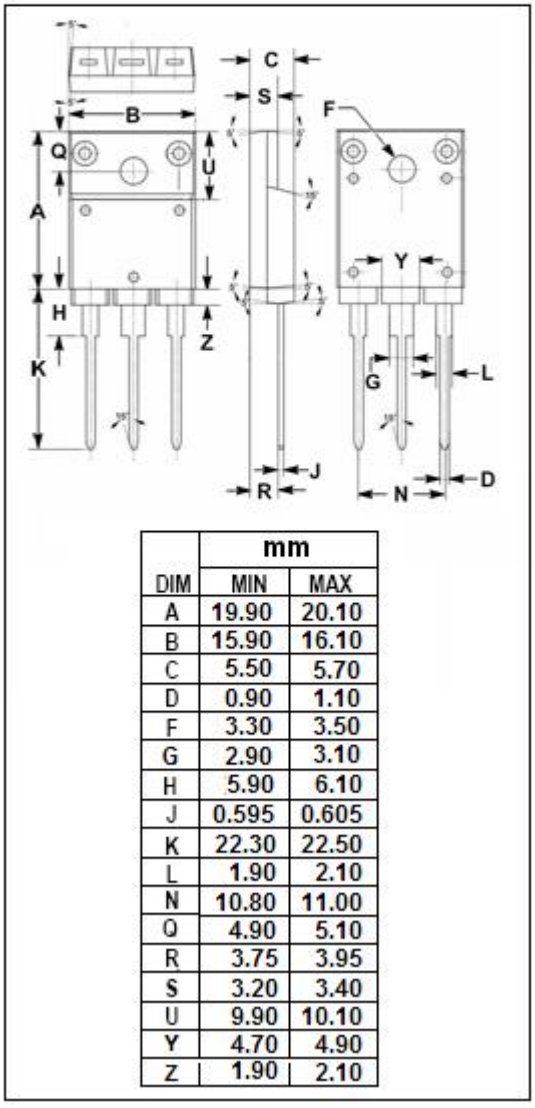
- Motor control
- DC-DC converters
- General purpose power amplifier

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	ARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage (V_{GS}=0)	500	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current-continuous@ TC=25℃	10	A
$I_{D(puls)}$	Pulsed Drain Current	40	A
P_{tot}	Total Dissipation@TC=25℃	80	W
T_j	Max. Operating Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.56	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance, Junction to Ambient	30	℃/W



DIM	mm MIN	MAX
A	19.90	20.10
B	15.90	16.10
C	5.50	5.70
D	0.90	1.10
F	3.30	3.50
G	2.90	3.10
H	5.90	6.10
J	0.595	0.605
K	22.30	22.50
L	1.90	2.10
N	10.80	11.00
Q	4.90	5.10
R	3.75	3.95
S	3.20	3.40
U	9.90	10.10
Y	4.70	4.90
Z	1.90	2.10

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• ELECTRICAL CHARACTERISTICS (T_C=25℃)

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=10mA	2.1	3.0	4.0	V
V_{SD}	Diode Forward On-Voltage	I_F=2 I_{DR} ;V_{GS}= 0		0.95	1.8	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D= 5A		0.8	1.1	Ω
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±20V;V_{DS}= 0			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= 500V; V_{GS}= 0			500	μA
Ciss	Input Capacitance	V_{DS}=25V; V_{GS}=0V; f_T=1MHz		1100	1600	pF
Crss	Reverse Transfer Capacitance			75	110	
Coss	Output Capacitance			140	210	
t_r	Rise Time	V_{GS}=10V; I_D=10A; V_{DD}=300V; R_L=25Ω		60	90	ns
$t_{d(on)}$	Turn-on Delay Time			25	40	
t_f	Fall Time			90	140	
$t_{d(off)}$	Turn-off Delay Time			200	300	

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