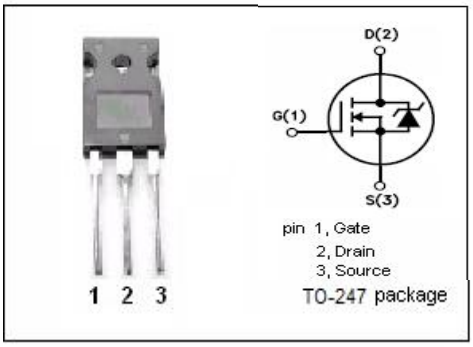
isc N-Channel MOSFET Transistor 2SK3681

• FEATURES

- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ = 160mΩ (Max)
- With low gate drive requirements
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

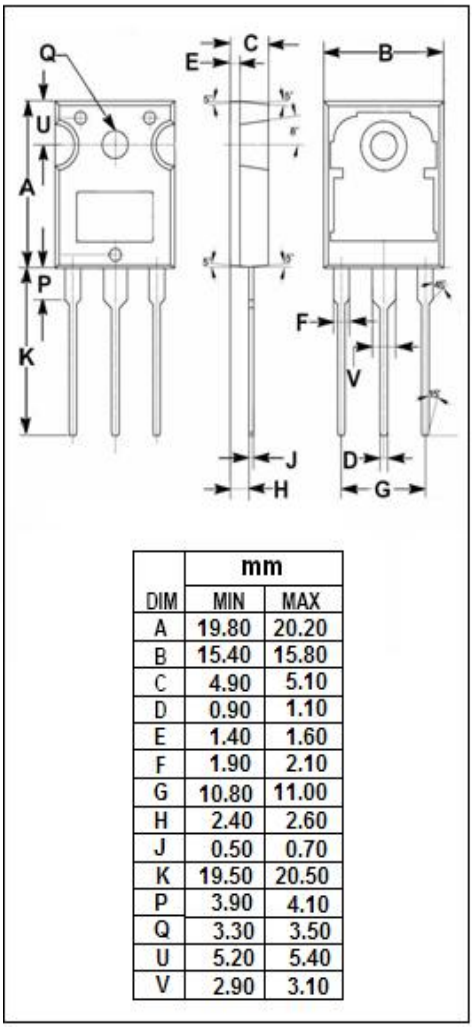


• APPLICATIONS

- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	600	V
V_{GSS}	Gate-Source Voltage	±30	V
I_D	Drain Current-Continuous	43	A
I_{DM}	Drain Current-Single Pulsed	152	A
P_D	Total Dissipation	600	W
T_j	Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature	-55~150	℃



DIM	mm MIN	mm MAX
A	19.80	20.20
B	15.40	15.80
C	4.90	5.10
D	0.90	1.10
E	1.40	1.60
F	1.90	2.10
G	10.80	11.00
H	2.40	2.60
J	0.50	0.70
K	19.50	20.50
P	3.90	4.10
Q	3.30	3.50
U	5.20	5.40
V	2.90	3.10

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.21	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V; I_D= 0.25mA	600			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}; I_D=0.25mA	3.0	3.5	5.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=26A		90	160	mΩ
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±30V;V_{DS}= 0V			±0.1	μA
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 600V; V_{GS}= 0V;@Tc=25℃ V_{DS}= 480V; V_{GS}= 0V;Tc=125℃			25 250	μA
V_{SDF}	Diode forward voltage	I_{SD}=43A, V_{GS} = 0 V			1.5	V
C_{iss}	Input Capacitance	V_{DS}=50V;V_{GS}=0V; f=1.0MHz		2800	3200	pF
C_{oss}	Output Capacitance			97		pF
C_{rss}	Reverse Transfer Capacitance			1.5		pF
Q_g	Total Gate Charge	V_{DS}=480V; I_D=38A; V_{GS}=10V		45	55	nC
Q_{gs}	Gate-Source Charge			15		nC
Q_{gd}	Gate-Drain Charge			11.5		nC
$t_{d(on)}$	Turn-on Delay Time	V_{DD}=380V;I_D=19A; R_G=1.7Ω;V_{GS}=10V		16		nS
t_r	Turn-on Rise Time			13		nS
$t_{d(off)}$	Turn-Off Delay Time			71		nS
t_f	Turn-Off Fall Time			13		nS