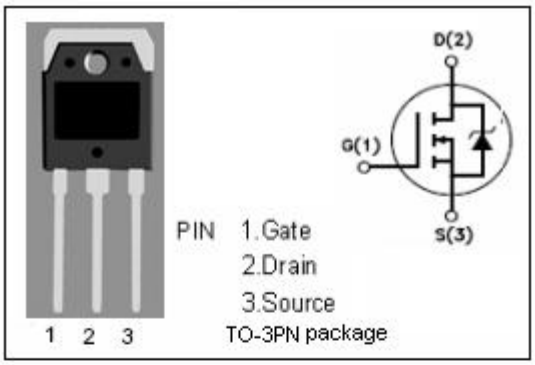
isc N-Channel MOSFET Transistor 2SK1745

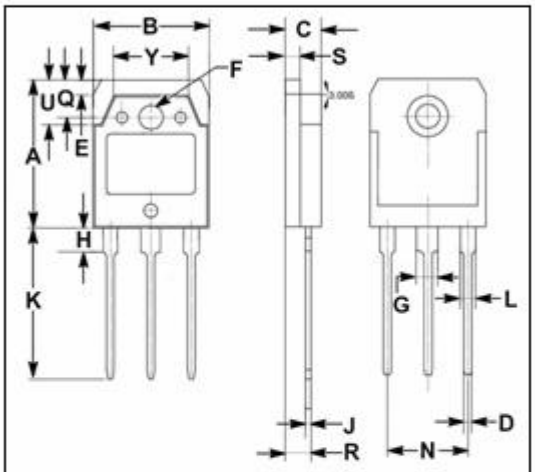
DESCRIPTION

- Drain Current I_D=18A@ 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

- Power supplies, converters and power motor controls



DIM	mm MIN	mm MAX
A	19.60	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	20.00	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.10
Y	9.90	10.10

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	18	A
P_{tot}	Total Dissipation@T_C=25℃	150	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	0.833	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance, Junction to Ambient	50	℃/W

isc N-Channel MOSFET Transistor 2SK1745

• ELECTRICAL CHARACTERISTICS (T_C=25℃)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}= 0; I_D= 10mA	500			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}; I_D=1mA	2.0		4.0	V
V_{SD}	Diode Forward On-Voltage	I_S=18A ;V_{GS}= 0			1.7	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D= 9A			0.36	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			300	μA
C_{iss}	Input Capacitance	V_{DS}=10V; V_{GS}=0V; f_T=1MHz		2100		pF
C_{rss}	Reverse Transfer Capacitance			210		
C_{oss}	Output Capacitance			530		
t_r	Rise Time	V_{GS}=10V; I_D=9A; V_{DD}=200V; R_L=22Ω		80		ns
t_{on}	Turn-on Time			120		
t_f	Fall Time			70		
t_{off}	Turn-off Time			210		