

**isc N-Channel MOSFET Transistor**

**2SK644**

**DESCRIPTION**

- Drain Current  $-I_D=10A@ T_C=25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS}=500V(\text{Min})$
- Fast Switching Speed

**APPLICATIONS**

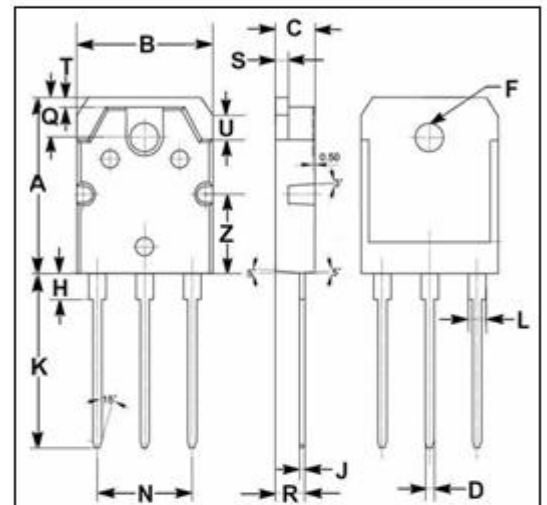
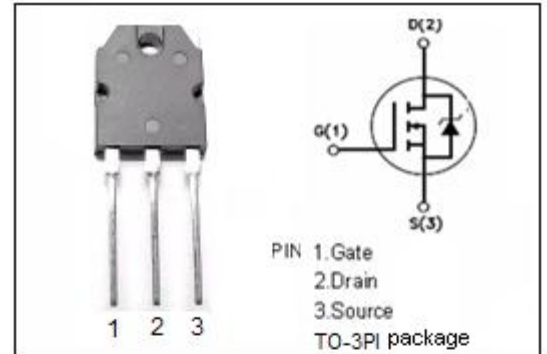
- high speed,high Current Switching applications.

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

SYMBOL	ARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-continuous@ $TC=25^\circ C$	10	A
$P_{tot}$	Total Dissipation@ $TC=25^\circ C$	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	1.0	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	50	$^\circ C/W$



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.40	4.60
D	0.90	1.10
F	3.20	3.40
H	2.90	3.10
J	0.50	0.70
K	19.90	20.10
L	1.90	2.10
N	10.80	11.00
Q	4.40	4.60
R	3.30	3.35
S	1.40	1.60
T	1.00	1.20
U	2.10	2.30
Z	8.90	9.10

## isc N-Channel Mosfet Transistor

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• ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=10\text{mA}$	500			V
$V_{GS(TH)}$	Gate Threshold Voltage	$V_{DS}=10\text{V}; I_D=1\text{mA}$	2.0		4.0	V
$R_{DS(ON)}$	Drain-Source On-stage Resistance	$V_{GS}=10\text{V}; I_D=5\text{A}$		0.7	1.0	$\Omega$
$V_{SD}$	Diode Forward Voltage	$I_F=10\text{A}; V_{GS}=0$		2.0		V
$I_{GSS}$	Gate Source Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$			$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}; V_{GS}=0$			300	$\mu\text{A}$
$t_r$	Rise time	$V_{GS}=10\text{V}; I_D=5\text{A};$ $R_L=40\Omega$		35	70	ns
$t_{on}$	Turn-on time			50	100	ns
$t_f$	Fall time			35	70	ns
$t_{off}$	Turn-off time			200	400	ns