

# isc N-Channel MOSFET Transistor

## 2SK1520

### DESCRIPTION

- Drain Current  $-I_D=30A@ T_C=25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS}=500$  (Min)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

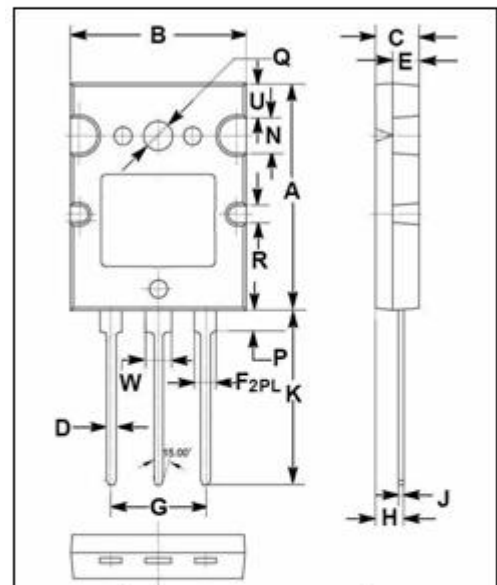
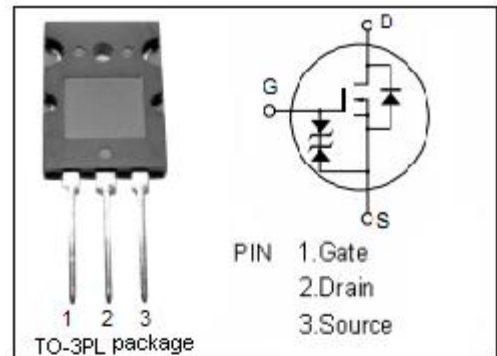
- Designed for high voltage, high speed power switching applications such as switching regulators, converters, solenoid and relay drivers.

### 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	$\pm 30$	V
$I_D$	Drain Current-continuous@ $T_C=25^\circ C$	30	A
$P_{tot}$	Total Dissipation@ $T_C=25^\circ C$	200	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	25.50	26.50
B	19.80	20.20
C	4.50	5.50
D	0.90	1.10
E	2.80	3.20
F	2.40	2.60
G	10.80	11.00
H	3.10	3.30
J	0.50	0.70
K	20.00	21.00
N	3.90	4.50
P	2.40	2.60
Q	3.10	3.50
R	1.90	2.60
U	3.90	4.10
W	2.90	3.25

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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0; I <sub>D</sub> = 10mA	500			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =10V; I <sub>D</sub> =1mA	2.0		3.0	V
R <sub>DS(on)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =15A		0.12	0.16	Ω
I <sub>GSS</sub>	Gate Source Leakage Current	V <sub>GS</sub> = ±25V; V <sub>DS</sub> = 0			±10	uA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =400V; V <sub>GS</sub> = 0			250	uA
V <sub>SD</sub>	Diode Forward Voltage	I <sub>F</sub> =30A; V <sub>GS</sub> =0			1.1	V
t <sub>r</sub>	Rise time	V <sub>GS</sub> =10V; I <sub>D</sub> =15A; R <sub>L</sub> =3 Ω		170		ns
t <sub>on</sub>	Turn-on time			235		ns
t <sub>f</sub>	Fall time			200		ns
t <sub>off</sub>	Turn-off time			615		ns

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