

# Isc P-Channel MOSFET Transistor

SUD50P04-08

## • FEATURES

- With To-252(DPAK) package
- Low input capacitance and gate charge
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

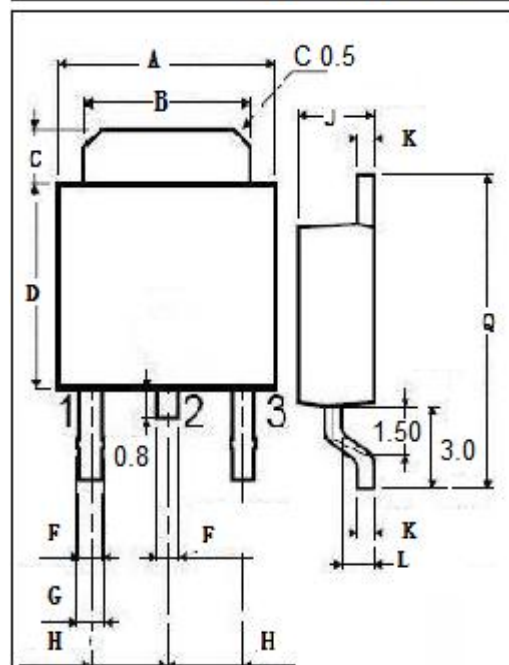
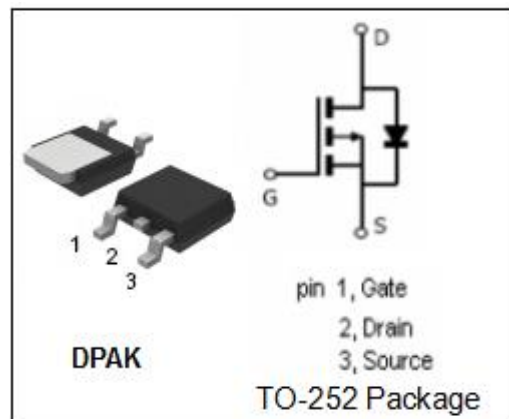
- Switching applications
- Motor control
- DC-DC converters

## • ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	-40	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous $T_c=25^{\circ}\text{C}$ $T_c=70^{\circ}\text{C}$	-50 -50	A
$I_{DM}$	Drain Current-Single Pulsed	-100	A
$P_D$	Total Dissipation @ $T_c=25^{\circ}\text{C}$	73.5	W
$T_j$	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^{\circ}\text{C}$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.7	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	50	$^{\circ}\text{C/W}$



DIM	MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
E	0.65	
F	0.75	
G	2.10	2.50
H	2.10	2.40
I	0.40	0.60
J	0.90	1.10
K	9.90	10.1

**Isc P-Channel MOSFET Transistor****SUD50P04-08****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = -0.25mA	-40			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =-0.25mA	-1.0		-2.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = -10V; I <sub>D</sub> =-22A		6.7	8.1	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0V			±0.25	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =-40V; V <sub>GS</sub> = 0V; T <sub>c</sub> =25°C T <sub>c</sub> =125°C			-1 -50	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =-10A, V <sub>GS</sub> = 0 V			-1.5	V

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