

isc N-Channel MOSFET Transistor

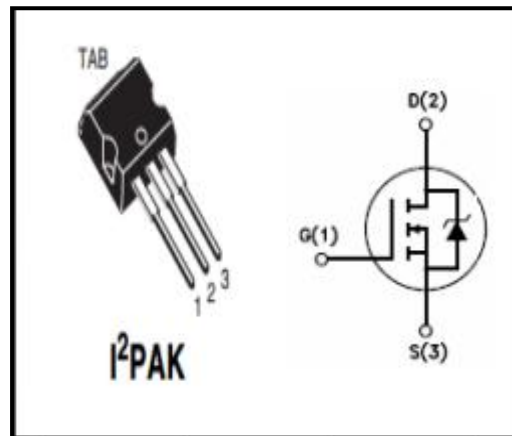
SPI21N50C3

• FEATURES

- With TO-262(I²PAK) package
- Low input capacitance and gate charge
- Low gate input resistance
- Improved transconductance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage	500	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Drain Current-Continuous@T _c =25°C T _c =100°C	21 13.1	A
I _{DM}	Drain Current-Single Pulsed	63	A
P _D	Total Dissipation	208	W
T _j	Operating Junction Temperature	-55~150	°C
T _{stg}	Storage Temperature	-55~150	°C

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th(ch-c)}	Channel-to-case thermal resistance	0.6	°C/W
R _{th(ch-a)}	Channel-to-ambient thermal resistance	62	°C/W

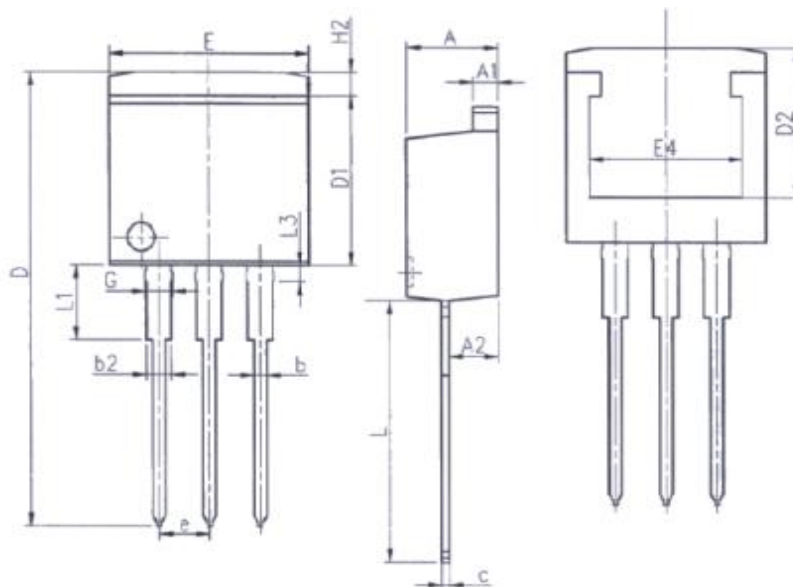
Isc N-Channel MOSFET Transistor**SPI21N50C3****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=0.25mA$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=\pm 20V$; $I_D=1mA$		3	3.9	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D=13.1A$		160	190	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$; $V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=500V$; $V_{GS}=0V$; $T_J=25^{\circ}\text{C}$ $T_J=125^{\circ}\text{C}$			1 100	μA
V_{SDF}	Diode forward voltage	$I_{SD}=21A$, $V_{GS}=0V$			1.2	V

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DIMENSIONAL DRAWING



Unit: mm		
Symbol	Min.	Max.
A	4.37	4.77
A1	1.22	1.42
A2	2.47	2.87
b	0.70	0.97
b2	1.17	1.42
c	0.28	0.53
D	23.20	24.02
D1	8.38	8.90
D2	6.00	-

Unit: mm		
Symbol	Min.	Max.
E	9.90	10.39
E4	7.30	-
e	2.54BSC	
G	1.25	1.50
H2	-	1.31
L	13.34	14.10
L1	3.30	4.06
L3	0.95	1.15



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