

Isc N-Channel MOSFET Transistor

SPA21N50C3

• FEATURES

- Drain Source Voltage-
: $V_{DSS}=500V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(\text{on})} = 0.19 \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

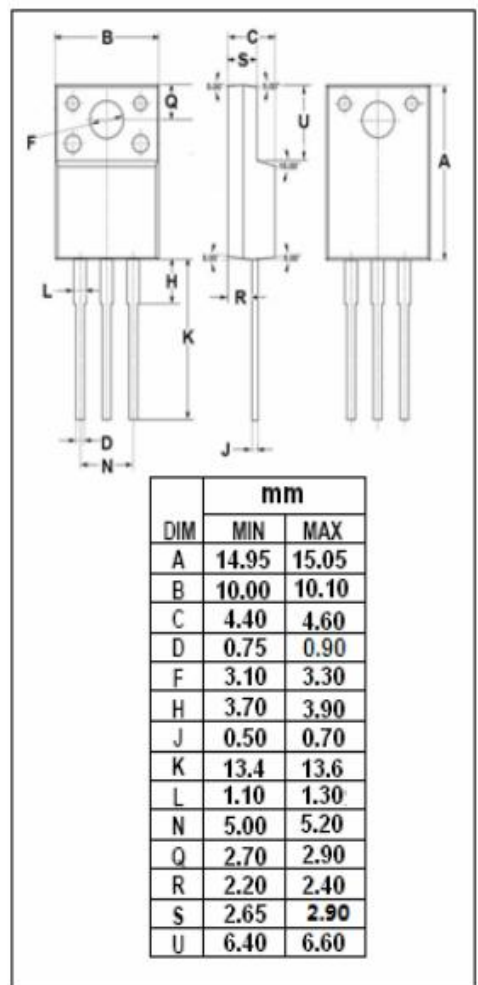
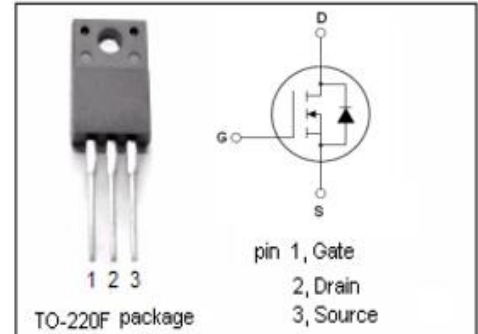
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	500	V
V_{GSS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous @ $T_c=25^\circ\text{C}$ (V_{GS} at 10V) $T_c=100^\circ\text{C}$	21 13.1	A
I_{DM}	Drain Current-Single Pulsed	63	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	34.5	W
T_j	Max. Operating Junction Temperature	-55~150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(\text{ch-c})}$	Channel-to-case thermal resistance	3.6	$^\circ\text{C/W}$
$R_{th(\text{ch-a})}$	Channel-to-ambient thermal resistance	80	$^\circ\text{C/W}$



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• ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	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} = V _{GS} ; I _D =1000uA	2.1	3	3.9	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =7A		0.16	0.19	Ω
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V; V _{DS} = 0V			±100	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 500V; V _{GS} = 0V; T _J =25°C V _{DS} =500V; V _{GS} = 0V; T _J =150°C		0.1	1 100	μA
V _{SDF}	Diode forward voltage	I _{SD} =21A, V _{GS} = 0 V		1	1.2	V

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