

# isc N-Channel MOSFET Transistor

## 7N65

### • FEATURES

- Drain Current  $I_D = 7A @ T_C = 25^\circ C$
- Drain Source Voltage  
:  $V_{DSS} = 650V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(\text{on})} = 1.35 \Omega (\text{Max}) @ V_{GS} = 10 V$
- Avalanche Energy Specified
- Fast Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

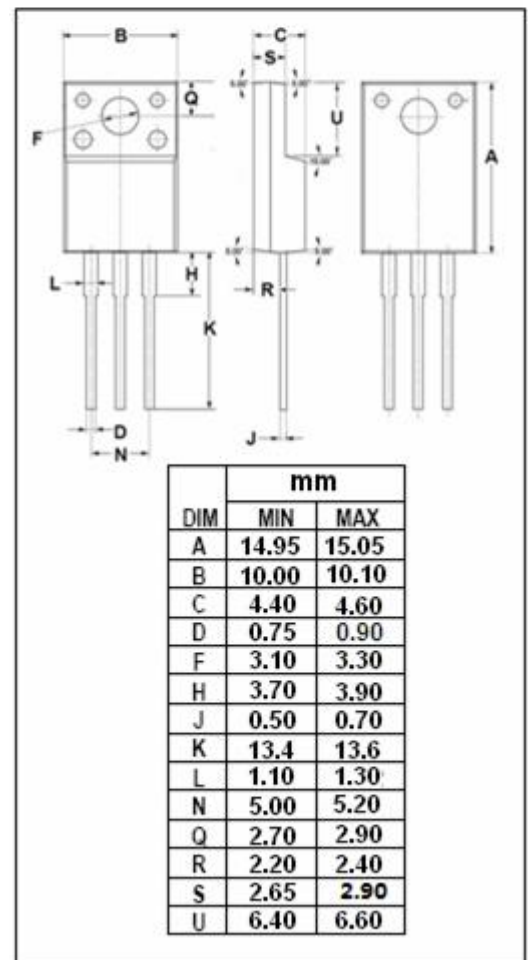
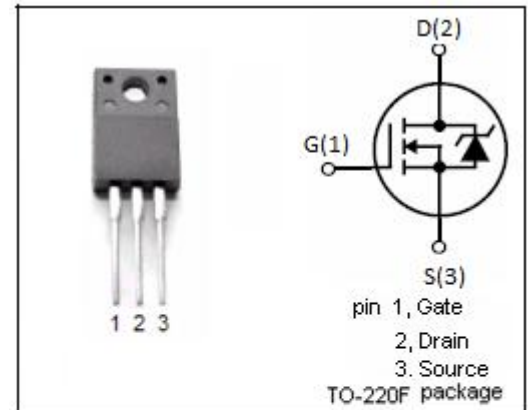
- High speed switching applications in power supplies
- PWM motor controls
- High efficient DC to DC converters and bridge circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	650	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 30$	V
$I_D$	Drain Current-Continuous	7	A
$I_{DM}$	Drain Current-Single Plused	28	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	142	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.88	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$



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## • ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA	650		V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 0.25mA	2	4	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 3.5A		1.35	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0		± 100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 650V; V <sub>GS</sub> = 0		1	μ A
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 7A; V <sub>GS</sub> = 0		1.4	V
G <sub>fs</sub>	Forward Transconductance	V <sub>DS</sub> = 40V; I <sub>D</sub> = 3.5A	8		S

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