

isc N-Channel MOSFET Transistor

FDD3706

FEATURES

- Drain Current $-I_D=14.7A@T_C=25^{\circ}C$
- Drain Source Voltage $-V_{DSS}=20V(\text{Min})$
- Static Drain-Source On-Resistance
 $-R_{DS(on)}=9m\Omega(\text{Max})$

DESCRIPTION

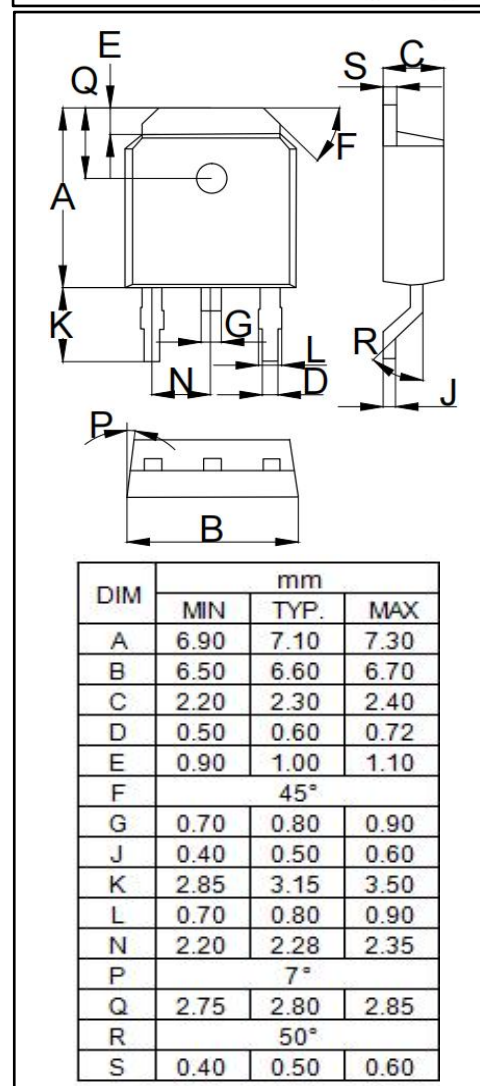
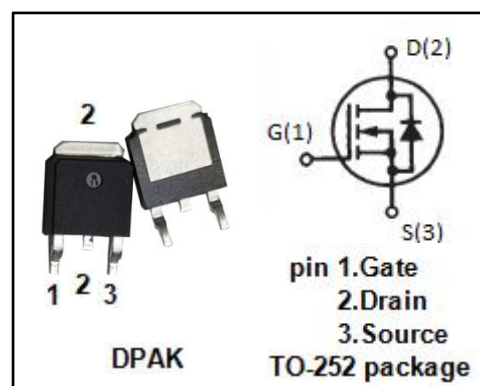
- Motor drive, DC-DC converter, power switch and solenoid drive.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage-Continuous	± 12	V
I_D	Drain Current-Continuous	14.7	A
I_{DM}	Drain Current-Single Pluse	60	A
P_D	Total Dissipation @ $T_C=25^{\circ}C$	44	W
T_J	Max. Operating Junction Temperature	175	$^{\circ}C$
T_{stg}	Storage Temperature	-55~175	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	3.4	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS ($T_c=25^{\circ}\text{C}$ unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=0.25\text{mA}$	20	--	--	V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=0.25\text{mA}$	0.5	--	1.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=16.2\text{A}$	--	--	9	$\text{m}\Omega$
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=4.5\text{V}$; $I_D=14.7\text{A}$	--	--	11	$\text{m}\Omega$
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=2.5\text{V}$; $I_D=12.2\text{A}$	--	--	16	$\text{m}\Omega$
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 12\text{V}$; $V_{DS}=0$	--	--	± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16\text{V}$; $V_{GS}=0$	--	--	10	μA
V_{SD}	Forward On-Voltage	$I_S=3.2\text{A}$; $V_{GS}=0$	--	--	1.2	V

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