

isc N-Channel Mosfet Transistor

10N12

• FEATURES

- Drain Current  $-I_D = 10A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 120V (Min)$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.3 \Omega (Max)$
- SOA is Power-Dissipation Limited
- Nanosecond Switching Speeds
- High Input Impedance

• DESCRIPTION

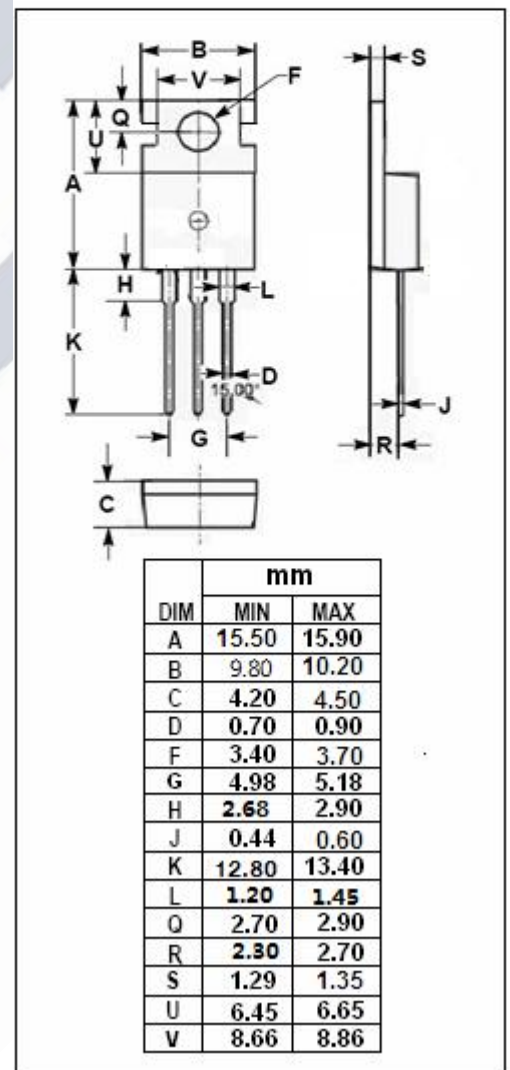
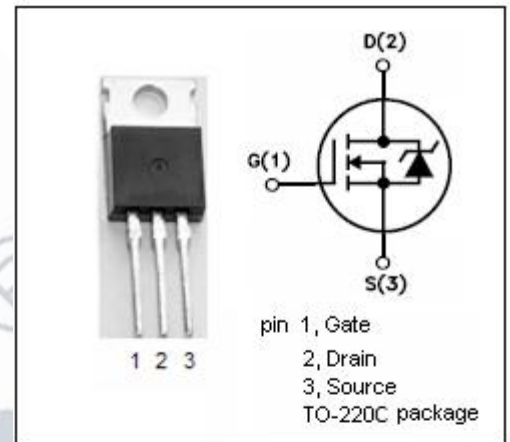
- Designed for switching converters, motor drivers, relay drivers

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	120	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	10	A
$I_{DM}$	Drain Current-Single Pulsed	25	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	75	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	0.6	$^\circ C/W$



**isc N-Channel Mosfet Transistor****10N12****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$ ; $I_D=1\text{mA}$	120		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$ ; $I_D=2\text{mA}$	2	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$ ; $I_D=5\text{A}$		0.3	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$		$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=120\text{V}$ ; $V_{GS}=0$ $V_{DS}=120\text{V}$ ; $V_{GS}=0$ ; $T_C=125\text{C}$		1 50	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=5\text{A}$ ; $V_{GS}=0$		1.4	V