

isc N-Channel MOSFET Transistor

IXFA56N30X3

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 27m\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% Avalanche Tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATION

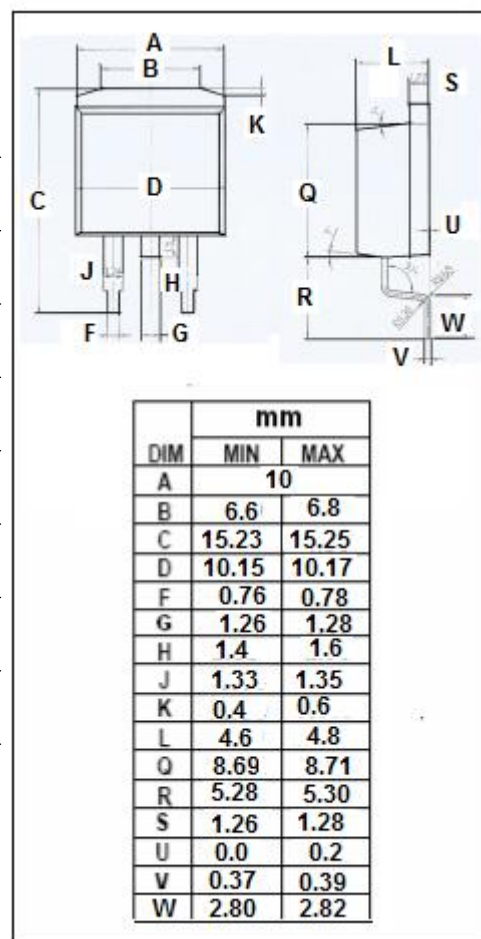
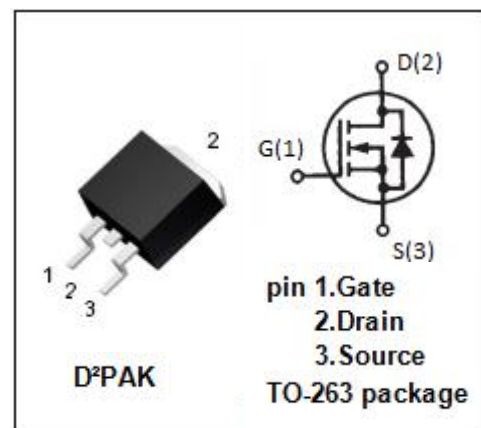
- Switched mode power supplies
- DC-DC converters

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	300	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	56	A
I_{DM}	Drain Current-Single Pulsed	112	A
P_D	Total Dissipation @ $T_c=25^\circ C$	320	W
T_j	Operating Junction Temperature	-55~150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Junction-to-case thermal resistance	0.39	$^\circ C/W$



isc N-Channel MOSFET Transistor**IXFA56N30X3****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D = 1mA$	300		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D = 1.5mA$	2.5	4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D = 28A$		27	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}= \pm 20V$; $V_{DS}=0V$		± 100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}= V_{DSS}$; $V_{GS}= 0V$		5	μA
		$V_{DS}= V_{DSS}$; $V_{GS}= 0V$; $T_J= 125^{\circ}\text{C}$		500	
V_{SD}	Diode forward voltage	$I_F= 56A$; $V_{GS}= 0V$		1.4	V

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