

**Ultra fast Rectifier**
**DPF30I300PA**
**FEATURES**

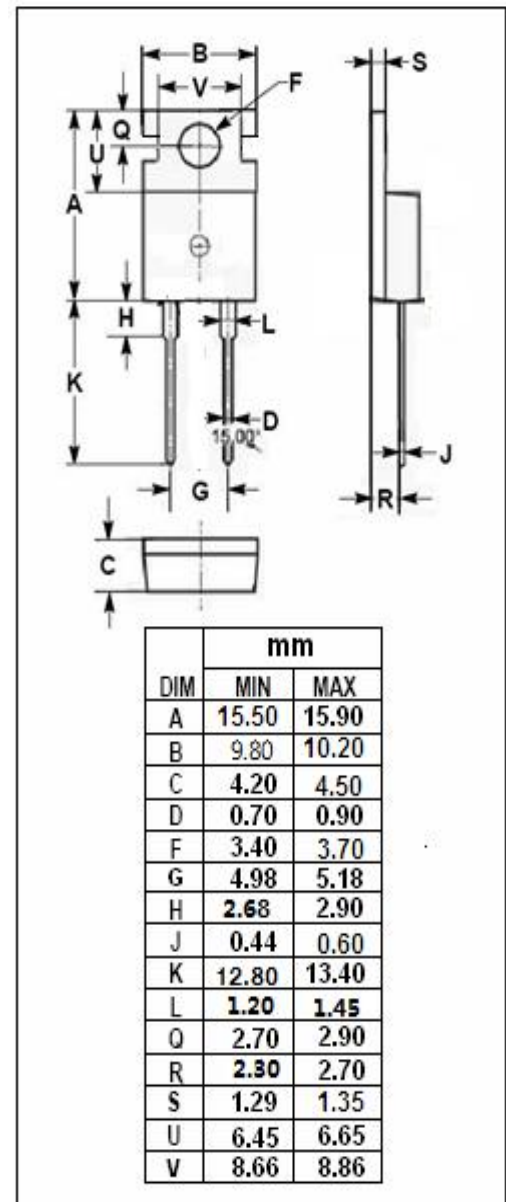
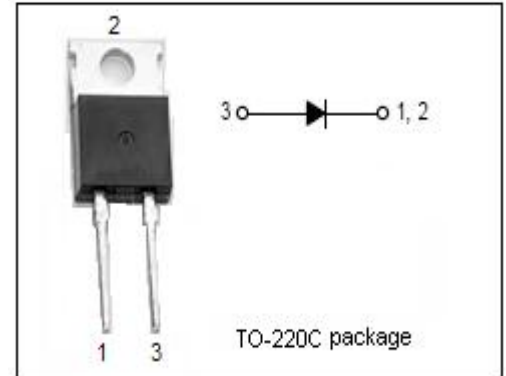
- With TO-220 packaging
- Metal silicon junction, majority carrier conduction
- Low leakage current
- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Switching power supply
- High frequency inverters
- Freewheeling diodes
- Reverse battery protection
- Polarity protection applications

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>RRM</sub> V <sub>RMS</sub> V <sub>R</sub>	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	300	V
I <sub>F(AV)</sub>	Average Rectified Forward Current @T <sub>c</sub> =145°C	30	A
I <sub>FRM</sub>	Repetitive Peak Surge Current (Square Wave, 20kHz)	60	A
I <sub>FSM</sub>	Nonrepetitive Peak Surge Current 8.3 ms single half sine-wave superimposed on rated load conditions;One shot	390	A
P <sub>D</sub>	Maximum Power Dissipation	175	W
T <sub>j</sub>	Junction Temperature	-55~175	°C
T <sub>stg</sub>	Storage Temperature Range	-55~175	°C



## Ultra fast Rectifier

## DPF30I300PA

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	0.5	°C/W

## ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s, Duty Cycle≤1%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V <sub>F</sub>	Maximum Instantaneous Forward Voltage	I <sub>F</sub> = 30A ;T <sub>c</sub> = 25°C I <sub>F</sub> = 30A ;T <sub>c</sub> = 125°C I <sub>F</sub> = 60A ;T <sub>c</sub> = 25°C I <sub>F</sub> = 60A ;T <sub>c</sub> = 125°C	1.17 0.98 1.37 1.21	V
I <sub>R</sub>	Maximum Instantaneous Reverse Current	V <sub>R</sub> = rated V <sub>RRM</sub> ; T <sub>c</sub> = 25°C T <sub>c</sub> =125°C	5 250	μ A
t <sub>rr</sub>	Maximum Reverse Recovery Time	I <sub>F</sub> =1A; dI <sub>F</sub> /dt=200A/ μ s; V <sub>R</sub> =200V	55	ns

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