

# Ultra fast Rectifier

## DPG20C300PN

### FEATURES

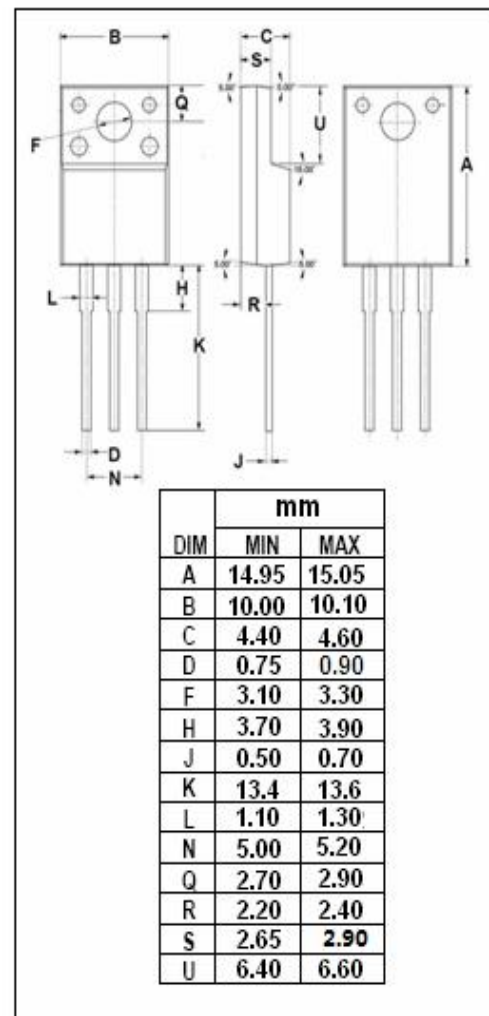
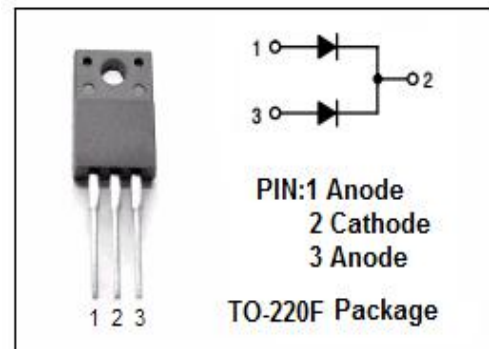
- With TO-220F packaging
- High junction temperature capability
- Low forward voltage, high current capability
- High current capability
- Low power loss, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Switching power supply
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{RRM}$ $V_{RMS}$ $V_R$	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	300	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_c=110^{\circ}\text{C}$	10	A
$I_{FSM}$	Nonrepetitive Peak Surge Current (10ms single half sine-wave superimposed on rated load conditions)	140	A
$T_J$	Junction Temperature	-55~150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature Range	-55~175	$^{\circ}\text{C}$



**Ultra fast Rectifier****DPG20C300PN****THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.40	$^{\circ}C/W$

**ELECTRICAL CHARACTERISTICS** (Pulse Test: Pulse Width=300  $\mu$  s, Duty Cycle  $\leq$  1%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
$V_F$	Maximum Instantaneous Forward Voltage	$I_F=10A; T_c=25^{\circ}C$ $I_F=10A; T_c=125^{\circ}C$ $I_F=20A; T_c=25^{\circ}C$ $I_F=20A; T_c=125^{\circ}C$	1.27 0.98 1.45 1.17	V
$I_R$	Maximum Instantaneous Reverse Current	$V_R = \text{rated } V_{RRM}; T_c=25^{\circ}C$ $V_R = \text{rated } V_{RRM}; T_c=100^{\circ}C$	1 60	$\mu A$
$t_{rr}$	Maximum Reverse Recovery Time	$I_F=0.10A; V_R=500V; -di_F/dt=200A/\mu s$	35	ns

**NOTICE:**

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.