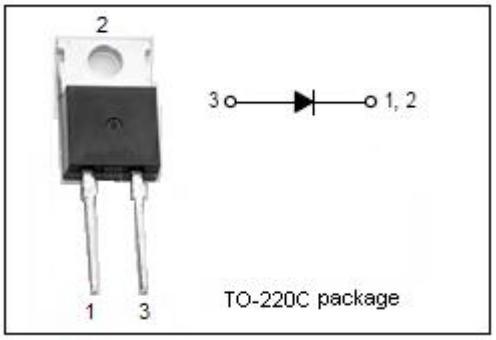
Ultra fast Rectifier

DSEP12-12A

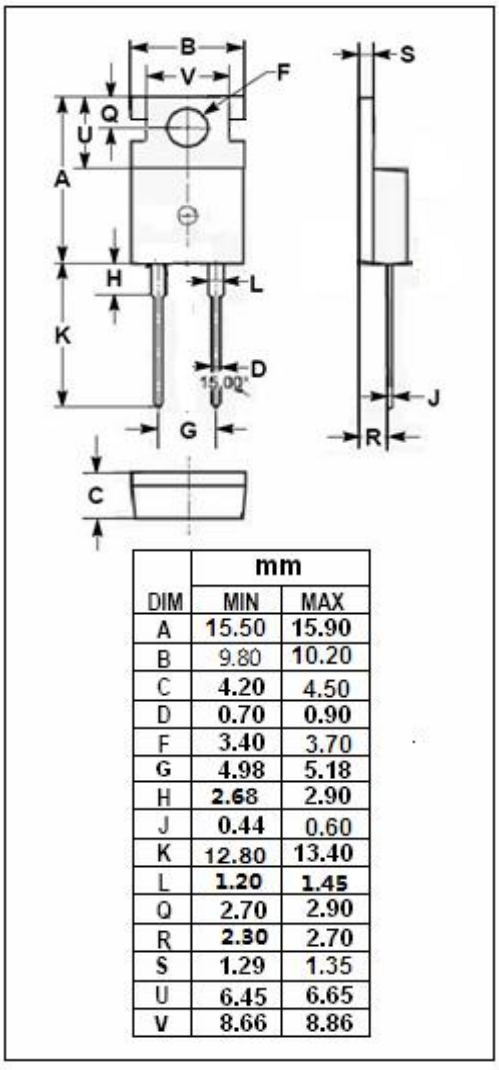
FEATURES

- With TO-220 packaging
- Metal silicon junction, majority carrier conduction
- 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
- Reverse battery protection
- Polarity protection applications



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RMS} V_R	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	1200	V
$I_{F(AV)}$	Average Rectified Forward Current @Tc=128℃	15	A
I_{FRM}	Repetitive Peak Forward Current@Tc=128℃	35	A
I_{FSM}	Nonrepetitive Peak Surge Current 10 ms single half sine-wave superimposed on rated load conditions;One shot(50Hz)	90	A
P_D	Maximum power dissipation	95	W
Tj	Junction Temperature	-55~175	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.6	℃/W

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

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	I_F= 15A;Tc= 25℃ I_F= 15A;Tc= 150℃	2.75 1.79	V
I_R	Maximum Instantaneous Reverse Current	V_R= rated V_{RRM};Tc= 25℃ Tc=150℃	100 500	μA
t_{rr}	Maximum Reverse Recovery Time	I_F =1A;dI_F/dt=-100A/μs;V_R=30V	40	ns

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