

# Ultra fast Rectifier

## DUR1040CT

### FEATURES

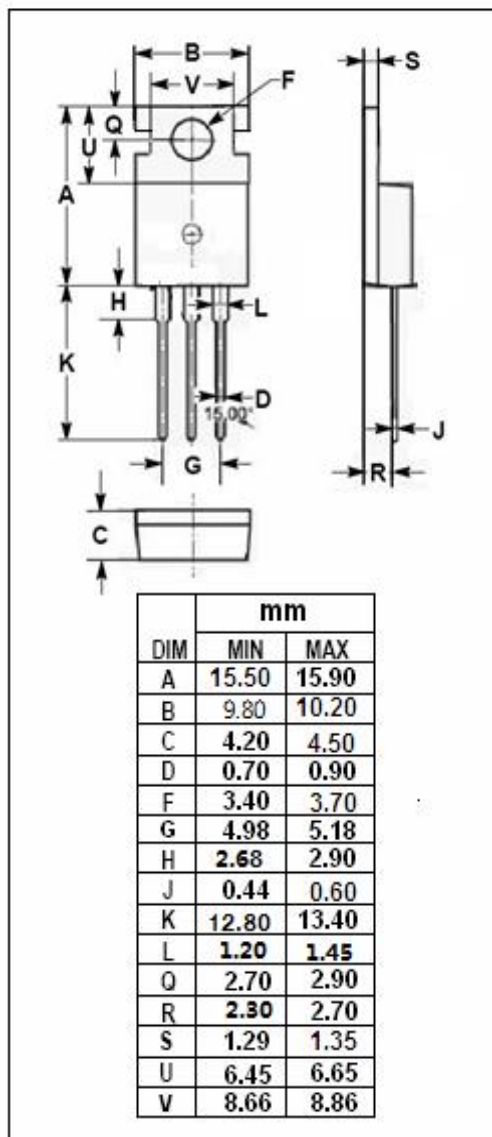
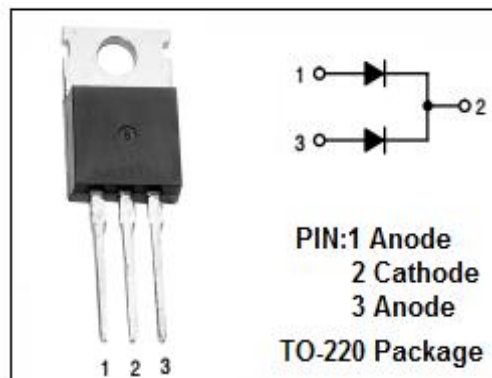
- With TO-220 packaging
- Soft, fast switching capability
- Low forward voltage drop
- Low leakage current
- High frequency operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Switching power supply
- Converters
- 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		200	V
$I_{F(AV)}$	Average rectified forward current	Per Leg Total	5 10	A
$I_{FSM}$	Nonrepetitive peak surge current ( 8.3ms single half sine-wave superimposed on rated load conditions )		80	A
$T_J$	Junction temperature		-55~150	$^{\circ}\text{C}$
$T_{stg}$	Storage temperature range		-55~150	$^{\circ}\text{C}$



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## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance, junction to case	3.5	°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	$I_F = 5A$	1.3	V
$I_R$	Maximum instantaneous reverse current ( Short duration pulse test used to minimize self-heating effect )	$V_R = \text{rated } V_{RRM}; T_c = 25^\circ C$ $V_R = \text{rated } V_{RRM}; T_c = 125^\circ C$	30 300	$\mu A$
$t_{rr}$	Reverse recovery time	$I_F = 0.5A; I_R = 1A; I_{RR} = 0.25A$	45	ns

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