

Ultra fast Rectifier

BYV415K-600P

FEATURES

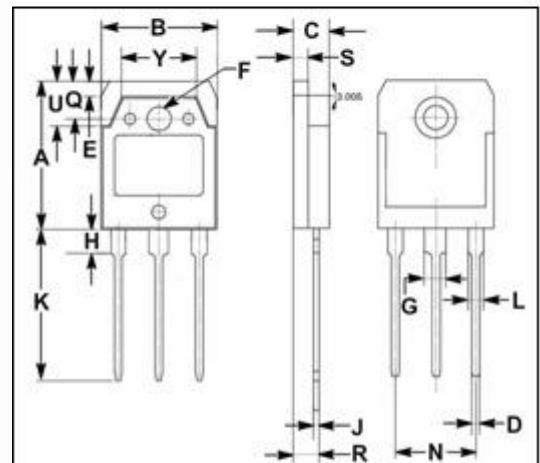
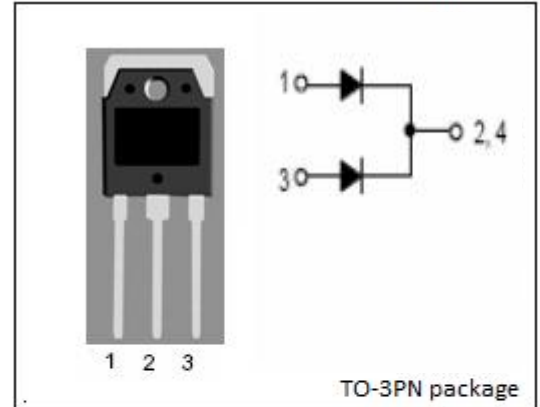
- With TO-3PN packaging
- Low thermal resistance
- Low leakage current
- Super high speed switching
- High reliability by planer design
- Very low on-state loss
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- Active PFC in air conditioner
- Interleaved PFC topology in switched-mode power supplies

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
VRRM VRWM VR	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage $t_w=500ns; duty=1/40$	600	V
IF(AV)	Average Rectified Forward Current @T _c =96°C; Square Wave; Duty=1/2	15	A
IFSM	Nonrepetitive Peak Surge Current 8.3ms single half sine-wave superimposed on rated load conditions	140	A
TJ	Junction Temperature	-65~175	°C
Tstg	Storage Temperature Range	-65~175	°C



DIM	mm	
	MIN	MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-mb}$	Thermal Resistance, Junction to Mounting Base	2.0	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$) (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F=10A; T_c=25^{\circ}C$ $I_F=10A; T_c=150^{\circ}C$	2.1 1.4	V
I_R	Maximum Instantaneous Reverse Current	$V_R=V_{RWM}; T_c=25^{\circ}C$ $V_R=V_{RWM}; T_c=150^{\circ}C$	10 500	μ A
t_{rr}	Maximum Reverse Recovery Time	$I_F=1A; V_R=30V; diF/dt=100A/\mu s$	50	ns