

Pb Free Plating Product

## 40APU06



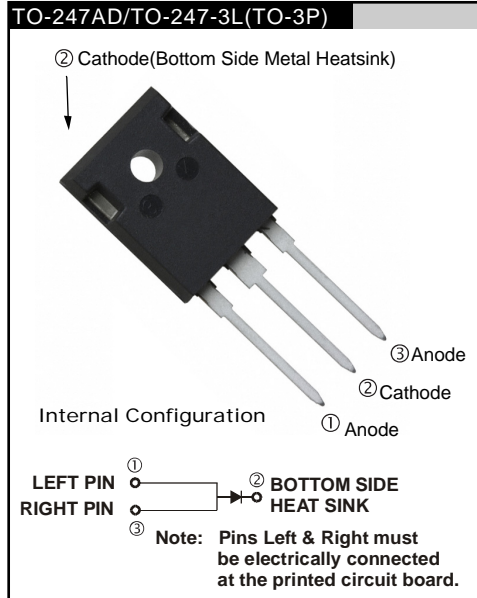
40Amperes,600Volts Switch Mode Single Fast Recovery Epitaxial Diode

### APPLICATION

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

### PRODUCT FEATURE

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current



### GENERAL DESCRIPTION

40APU06 using the latest FRED FAB process(planar passivation pellet) with ultrafast and soft recovery characteristics.

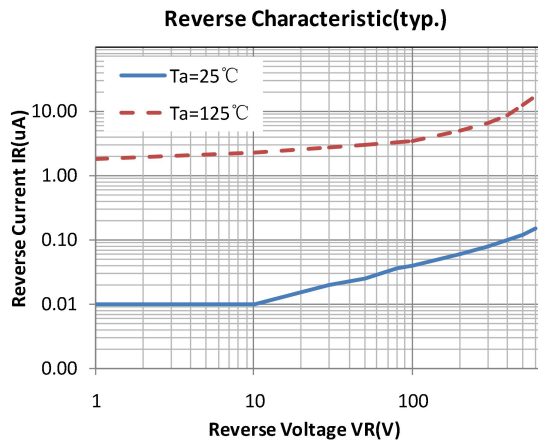
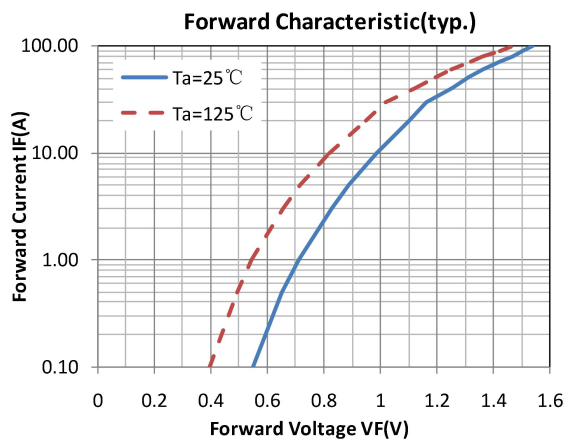
Absolute Maximum Ratings				
Parameter	Symbol	Test Conditions	Values	Units
Repetitive peak reverse voltage	$V_{RRM}$		600	V
Continuous forward current	$I_{F(AV)}$	$T_c = 110^\circ\text{C}$	40	A
Single pulse forward current	$I_{FSM}$	$T_c = 25^\circ\text{C}$	400	
Maximum repetitive forward current	$I_{FRM}$	Square wave, 20kHz	80	
Operating junction	$T_j$		175	$^\circ\text{C}$
Storage temperatures	$T_{stg}$		-55 to +175	$^\circ\text{C}$

Electrical characteristics (Ta=25°C unless otherwise specified)						
Parameter	Symbol	Test Conditions	Min	Typ.	Max.	Units
Breakdown voltage Blocking voltage	$V_{BR}$ , $V_R$	$I_R=100\mu A$	600			V
Forward voltage	$V_F$	$I_F=40A$		1.45	1.80	
		$I_F=40A, T_j=125^\circ C$		1.20	1.60	
Reverse leakage current	$I_R$	$V_R=V_{RRM}$			30	$\mu A$
		$T_j=150^\circ C, V_R=600V$			300	
Reverse recovery time	$t_{rr}$	$I_F=0.5A, I_R=1A, I_{RR}=0.25A$		43	55	ns
		$I_F=1A, V_R=30V, di/dt=200A/us$		32	40	

### Thermal characteristics

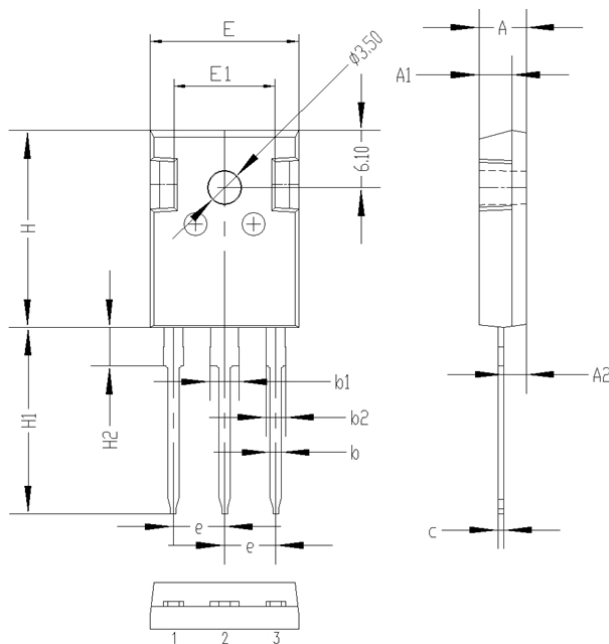
Parameter	Symbol	Typ	Units
Junction-to-Case	$R_{\theta JC}$	0.8	$^\circ C/W$

### Electrical performance (typic)



Package Information

TO-247AD PACKAGE



Symbol	Dimensions(millimeters)	
	Min.	Max.
A	4.80	5.20
A1	3.30	3.70
A2	2.10	2.50
b	1.00	1.40
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.6	16.0
E1	10.6	11.00
H	20.8	21.2
H1	19.4	20.4
H2	3.90	4.30
G	5.90	6.30
$\Phi P$	3.30	3.70