

Pb Free Plating Product

40APU06



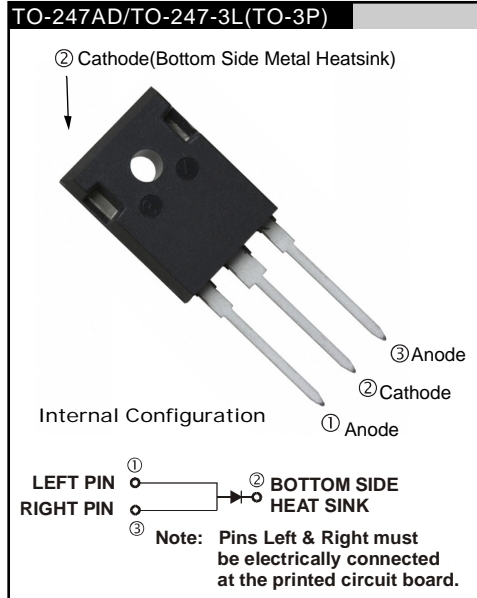
40Amperes,600Volts Switch Mode Single Fast Recovery Epitaxial Diode

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.

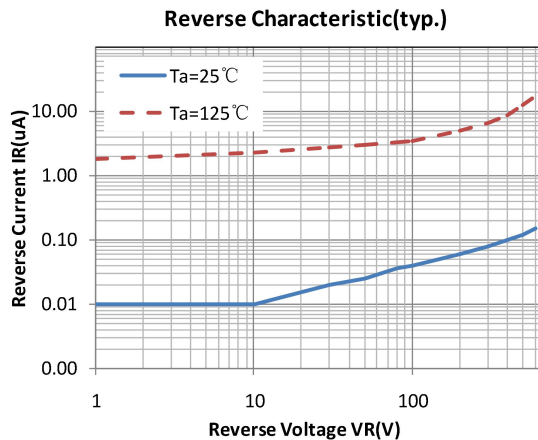
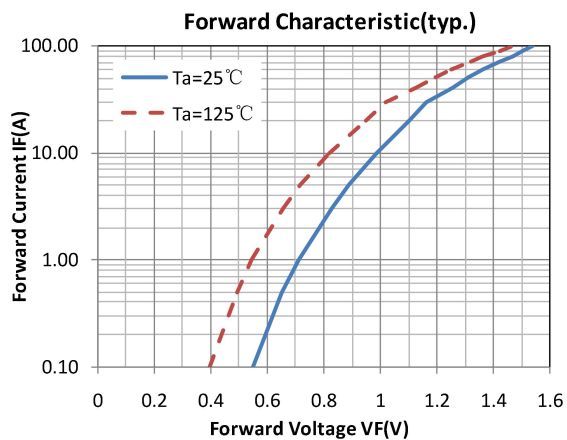
Absolute Maximum Ratings				
Parameter	Symbol	Test Conditions	Values	Units
Repetitive peak reverse voltage	V_{RRM}		600	V
Continuous forward current	$I_{F(AV)}$	$T_c = 110^\circ\text{C}$	40	A
Single pulse forward current	I_{FSM}	$T_c = 25^\circ\text{C}$	400	
Maximum repetitive forward current	I_{FRM}	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	μA
		$T_j=150^\circ C, V_R=600V$			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

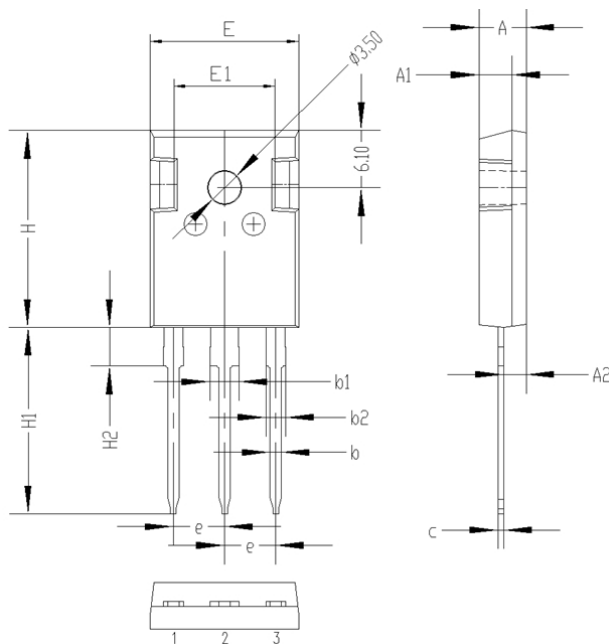
Parameter	Symbol	Typ	Units
Junction-to-Case	$R_{\theta JC}$	0.8	$^\circ C/W$

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
ϕP	3.30	3.70