

Pb Free Plating Product

IDP30E60



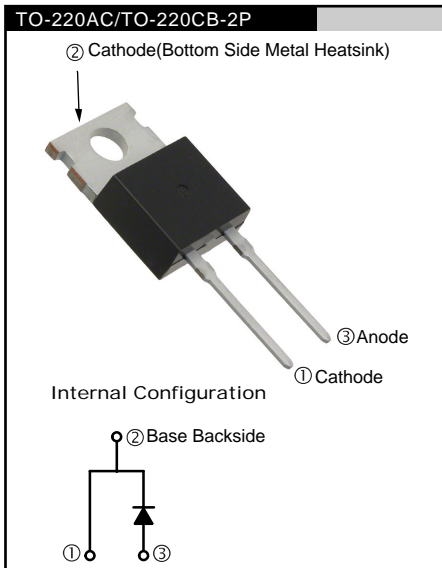
30Amperes,600Volts SwitchMode Ultrafast Recovery Epitaxial Diode

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

IDP30E60 using latest matured FRED FAB process(planar passivation pellet) with ultrafast and soft recovery characteristics.

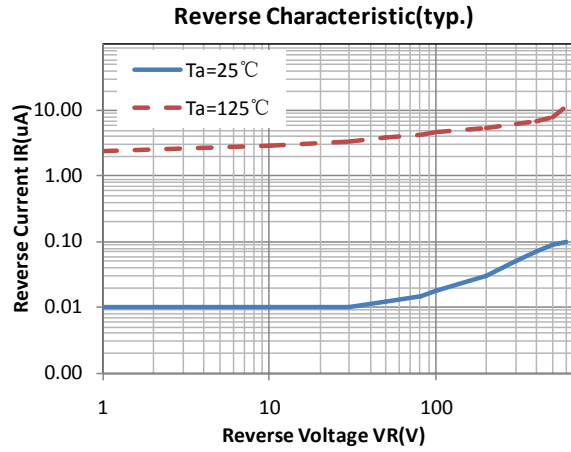
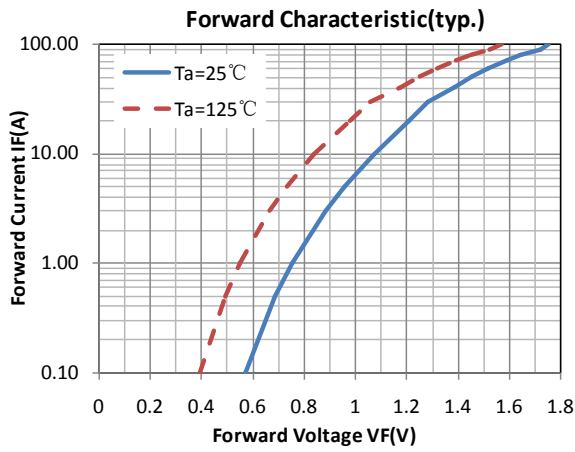
Absolute Maximum Ratings				
Parameter	Symbol	Test Conditions	Values	Units
Repetitive peak reverse voltage	V_{RRM}		600	V
Continuous forward current	$I_{F(AV)}$	$T_c = 110^\circ C$	30	A
Single pulse forward current	I_{FSM}	$T_c = 25^\circ C$	240	
Maximum repetitive forward current	I_{FRM}	Square wave, 20kHz	55	
Operating junction	T_j		175	$^\circ C$
Storage temperatures	T_{stg}		-55 to +175	$^\circ C$

Electrical characteristics ($T_a=25^\circ C$ 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 (Per Diode)	V_F	$I_F=30A$		1.30	1.60	
		$I_F=30A, T_j=125^\circ C$		1.05	1.40	
Reverse leakage current(Per Diode)	I_R	$V_R=V_{RRM}$			20	μA
		$T_j=150^\circ C, V_R=600V$			200	
Reverse recovery time(Per Diode)	t_{rr}	$I_F=0.5A, I_R=1A, I_{RR}=0.25A$		35	45	ns
		$I_F=1A, V_R=30V, di/dt=-200A/\mu s$		28	35	

Thermal characteristics

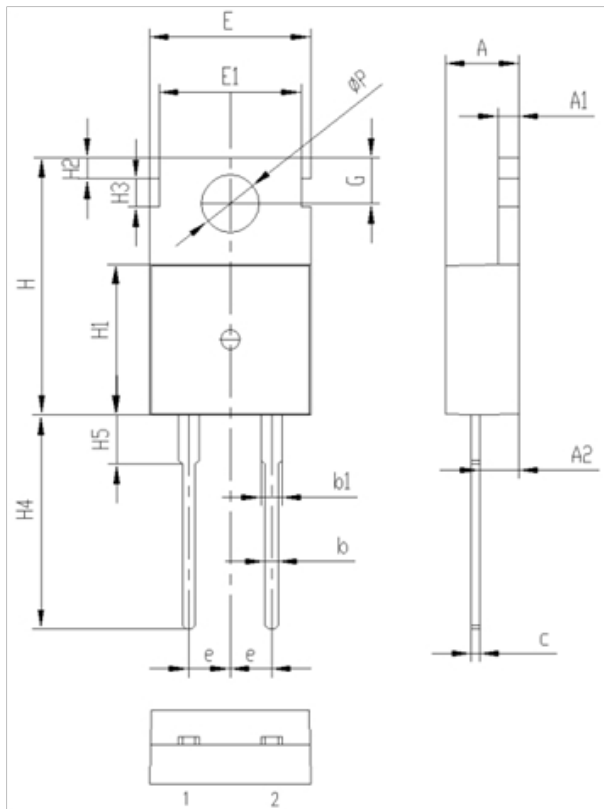
Paramter	Symbol	Typ	Units
Junction-to-Case	$R_{\theta JC}$	1.6	$^\circ C/W$

Electrical performance (typic)



Package Information

TO-220AC PACKAGE



Symbol	Dimensions (millimeters)	
	Min.	Max.
A	4.30	4.70
A1	1.17	1.37
A2	2.20	2.60
b	0.60	1.00
b1	1.17	1.37
b2	1.90	2.30
c	0.30	0.70
e	2.34	2.74
E	9.70	10.1
E1	8.50	8.90
H	15.5	15.9
H1	9.00	9.40
H2	1.10	1.50
H3	1.50	1.90
H4	12.58	13.58
H5	2.80	3.20
G	2.60	3.00
ΦP	3.40	3.80