Pb Free Plating Product

IDP30E60

30Amperes,600Volts SwitchMode Ultrafast Recovery Epitaxial Diode

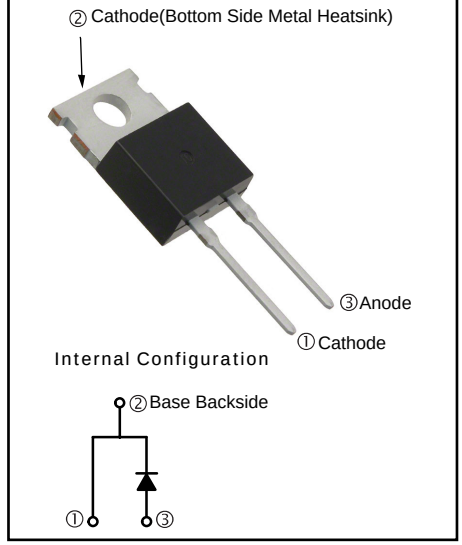
APPLICATION

- 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

TO-220AC/TO-220CB-2P



GENERAL DESCRIPTION

IDP30E60 using lastest 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	$I_{F(AV)}$	Tc =110°C	30	A
Single pulse forward current	I_{FSM}	Tc =25°C	240	
Maximum repetitive forward current	I_{FRM}	Square wave, 20kHZ	55	
Operating junction	Tj		175	°C
Storage temperatures	Tstg		-55 to +175	°C

Electrical characteristics (Ta=25°Cunless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ.	Max.	Units
Breakdown voltage Blocking voltage	V_{BR}, V_R	I_R=100μA	600			V
Forward voltage (Per Diode)	V_F	I_F=30A		1.30	1.60	
		I_F=30A, Tj =125°C		1.05	1.40	
Reverse leakage current(Per Diode)	I_R	V_R= V_{RRM}			20	μA
		Tj=150°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/us		28	35	

Thermal characteristics

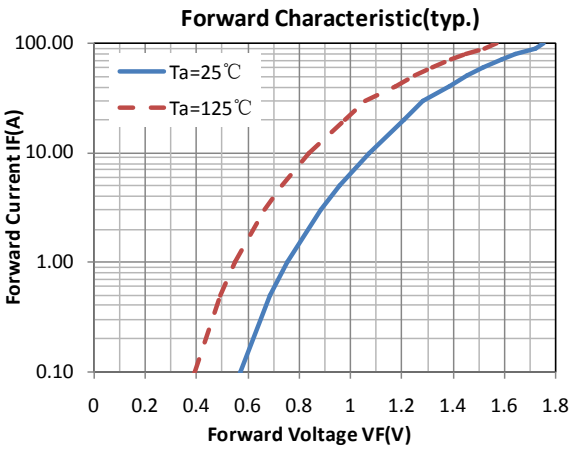
Paramter	Symbol	Typ	Units
Junction-to-Case	$R_{\theta JC}$	1.6	℃/W

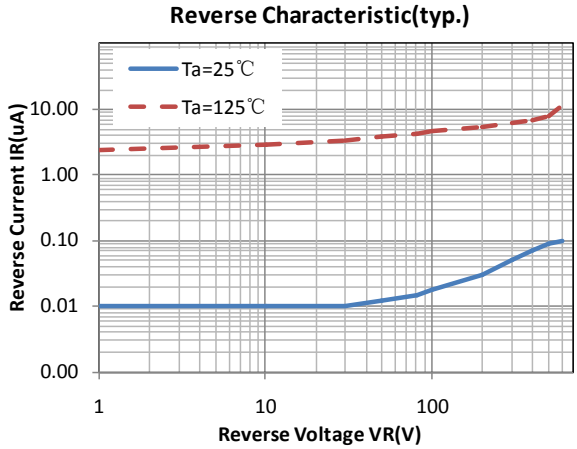
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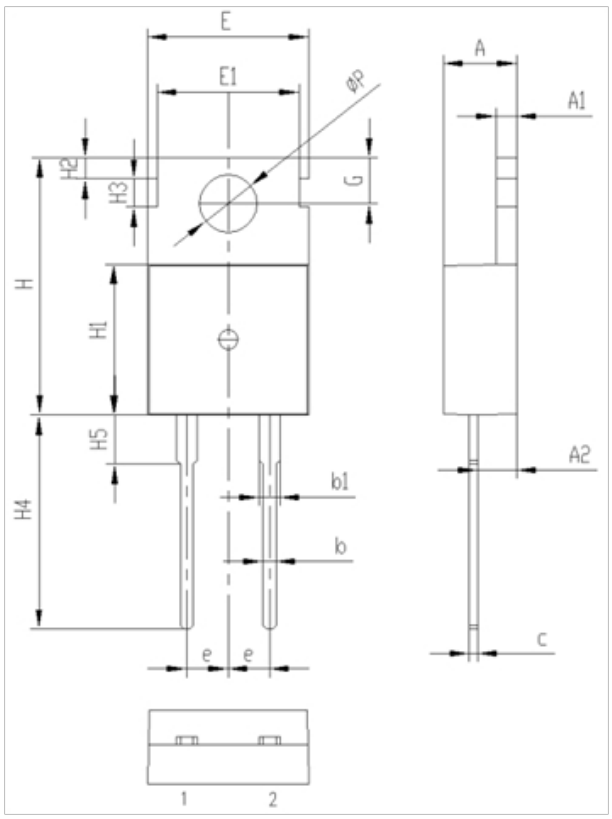
Electrical performance (typic)





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

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