



FRED
Ultrafast Soft Recovery Diode, 80A/200V

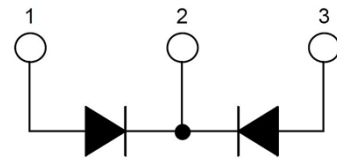
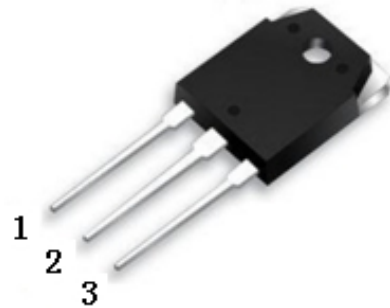
Description

These diodes are optimized to less losses and EMI/RFI in high frequency power conditioning system. The soft recovery character of the diodes offers buffer in most applications. These devices are suited for power converters and other applications where the switching losses are not significant portion of the total losses.

Features

- Ultrafast Recovery
175°C operating junction temperature
High frequency operation
Low IR value
High surge capacity
Epitaxial chip construction

Product Summary table with 2 columns: Parameter (VR, IF(AV), trr) and Value (200 V, 2*40A, 24ns)



Application

- Inverter welding
Switched mode power supply
UPS

Absolute Maximum Ratings table with 5 columns: Parameter, Symbol, Test Conditions, Values, Units. Rows include Repetitive peak reverse voltage, Continuous forward current, Single pulse forward current, Maximum repetitive forward current, Operating junction, and Storage temperatures.



Electrical characteristics (Ta=25°C unless otherwise specified)						
Parameter	Symbol	Test Conditions	Min	Typ.	Max.	Units
Breakdown voltage Blocking voltage	V_{BR}, V_R	$I_R=100\mu A$	200			V
Forward voltage (Per Diode)	V_F	$I_F=40 A$		0.95	1.20	
		$I_F=40 A, T_j =125^\circ C$		0.85	1.10	
Reverse leakage current(Per Diode)	I_R	$V_R= 200V$			30	μA
		$T_j=150^\circ C, V_R=200V$			300	
Reverse recovery time(Per Diode)	t_{rr}	$I_F=0.5A, I_R=1A, I_{RR}=0.25A$			45	ns
		$I_F=1A, V_R=30V, di/dt =200A/us$		25	35	

Thermal characteristics

Symbol	Parameter	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-Case	—	0.80	$^\circ C/W$

Typical Characteristics

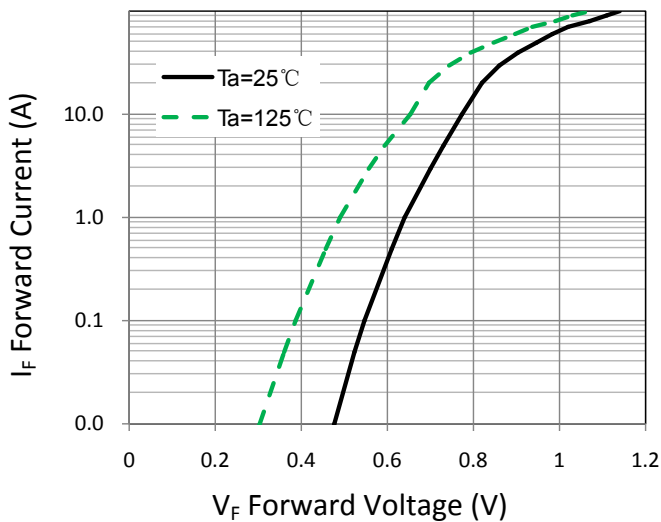


Figure 1. Forward Characteristic(typ.)

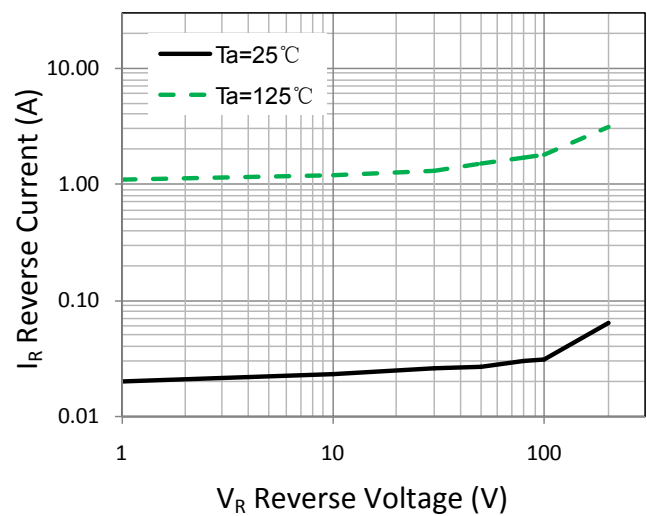
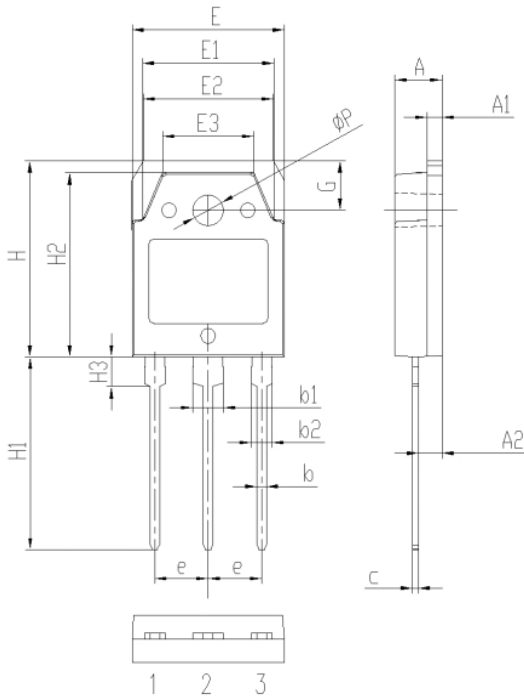


Figure 2. Reverse Characteristic (typ.)

Package Information (TO-3PB PACKAGE)



Symbol	Dimensions(millimeters)	
	Min.	Max.
A	4.60	5.00
A1	1.30	1.70
A2	2.20	2.60
b	0.80	1.20
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.3	15.7
E1	13.2	13.6
E2	13.1	13.5
E3	9.10	9.50
H	19.7	20.1
H1	19.1	20.1
H2	18.3	18.7
H3	2.80	3.20
G	4.80	5.20
ΦP	3.00	3.40

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