

FRED

Ultrafast Soft Recovery Diode, 600V, 8A

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.

General Features

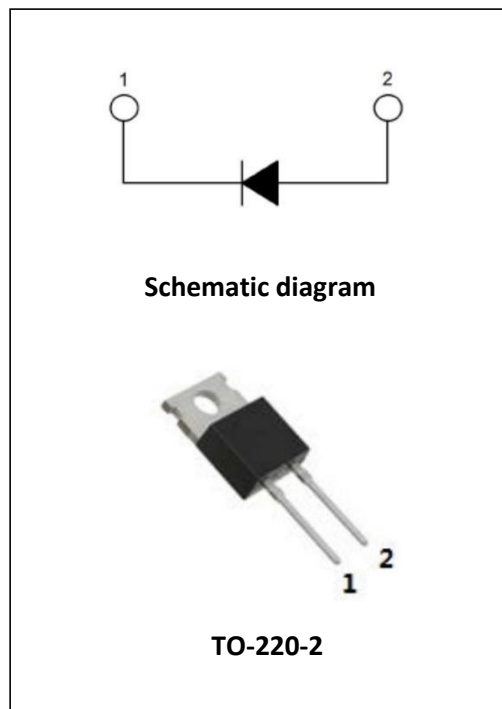
- ① Ultrafast Recovery
- ② 175°C operating junction temperature
- ③ High frequency operation
- ④ Low IR value
- ⑤ Very Low forward voltage
- ⑥ Epitaxial chip construction

Application

- ① Switched mode power supply
- ② Free wheeling diode, Snubber diode
- ③ UPS

Absolute Maximum Ratings

参数符号	符号说明	数值	单位
V_{RRM}	Repetitive Peak Reverse Voltage	600	V
V_{RMS}	RMS Voltage	420	V
V_{DC}	DC Blocking Voltage	600	V
$I_{F(AV)}$	Average Forward Rectified Current @ $T_A=100^{\circ}C$	8	A
I_{FSM}	Peak Forward Surge Current 8.3ms Single Half-sine-wave superimposed on Rated Load	100	A
$R_{\theta JC}$	Typical Thermal Resistance Junction to Case	2.0	$^{\circ}C/W$
T_j Tstg	Operating Junction and Storage Temperature Range	-65 +175	$^{\circ}C$



Electrical characteristics (Ta=25°C unless otherwise specified)

参数符号	符号说明	测试条件	最大值	单位
I_R	Reverse Current	VR=VRRM, TA=25°C VR=VRRM, TA=150°C	10 500	μA
$V_{(Note1)F}$	Forward Voltage	IF=8A, TA=25°C IF=8A, TA=150°C	1.50 1.20	V
t_{rr}	Reverse Recovery Time	IF=0.5A, IR=1A, Irr=0.25A	50	ns

Note1: Pulse test pulse width=300μs, duty cycle≤2.0%

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

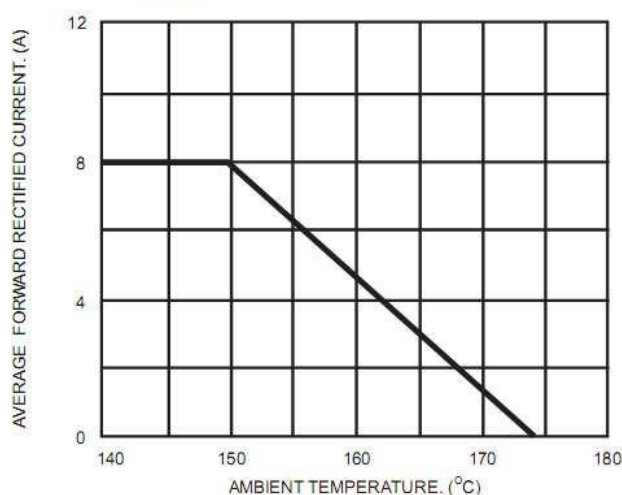


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

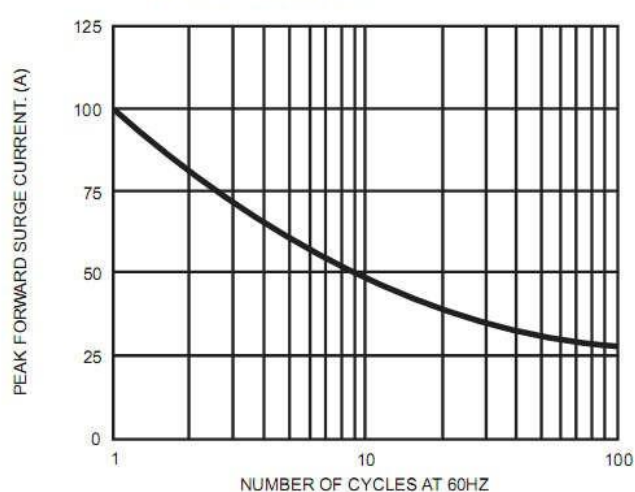


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

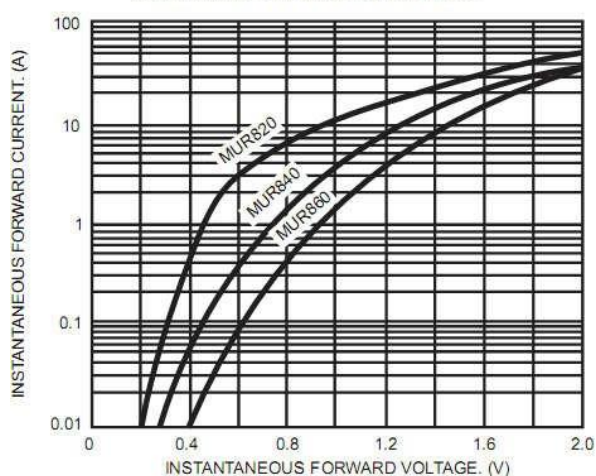
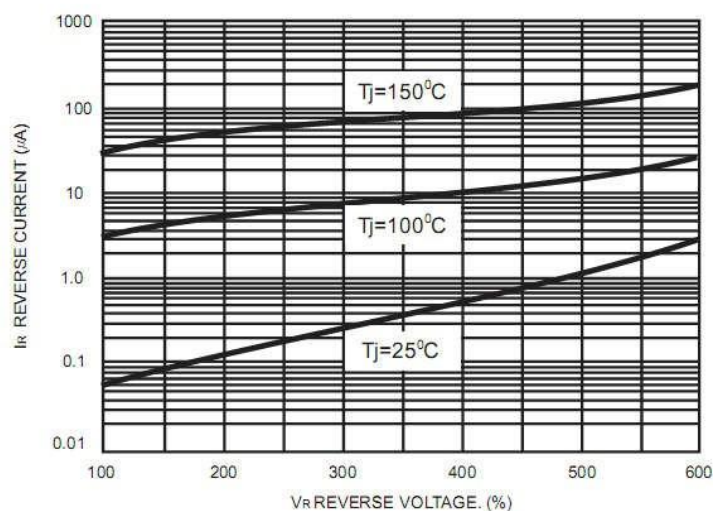
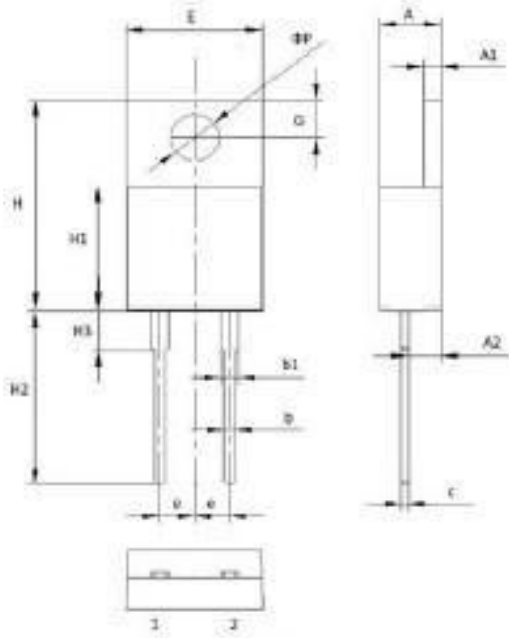


FIG.4- TYPICAL REVERSE CHARACTERISTICS



Package Information			
TO-220-2 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
	c	0.30	0.70
	e	2.34	2.74
	E	9.70	10.10
	H	15.50	15.90
	H1	9.00	9.40
	H2	12.58	13.58
	H3	2.80	3.20
	G	2.60	3.00
	ΦP	3.40	3.80

NOTE:

1. Exceeding the maximum ratings of the device in performance may cause damage to the device, even the permanent failure, which may affect the dependability of the machine. Please do not exceed the absolute maximum ratings of the device when circuit designing.
2. When installing the heat sink, please pay attention to the torsional moment and the smoothness of the heat sink.
3. MOSFETs is the device which is sensitive to the static electricity, it is necessary to protect the device from being damaged by the static electricity when using it.
4. Shenzhen Minos reserves the right to make changes in this specification sheet and is subject to change without prior notice.

CONTACT:

深圳市迈诺斯科技有限公司（总部）

地址：深圳市福田区华富街道田面社区深南中路4026号田面城市大厦16D

邮编：518025

电话：0755-83273777