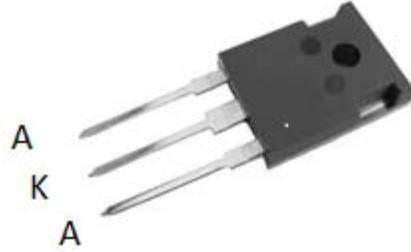


FRED Ultrafast Soft Recovery Diode, 60A

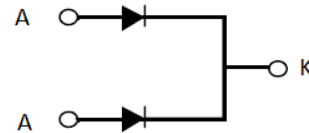
FEATURES:

- Ultrafast Recovery
- 175°C operating junction temperature
- Designed and qualified for industrial level



Benefits:

- Reduced RFI and EMI
- Higher frequency operation
- Reduced snubbing
- Reduced part count



Product Summary	
V_R	600 V
$I_{F(AV)}$	60 A
t_{rr}	40 ns

Description/Applications

These diodes are optimized to reduce losses and EMI/RFI in high frequency power conditioning system. The softness of the recovery eliminates the need for a snubber in most applications. These devices are ideally suited for HF welding power converters and other applications where switching losses are not significant portion of the total losses.

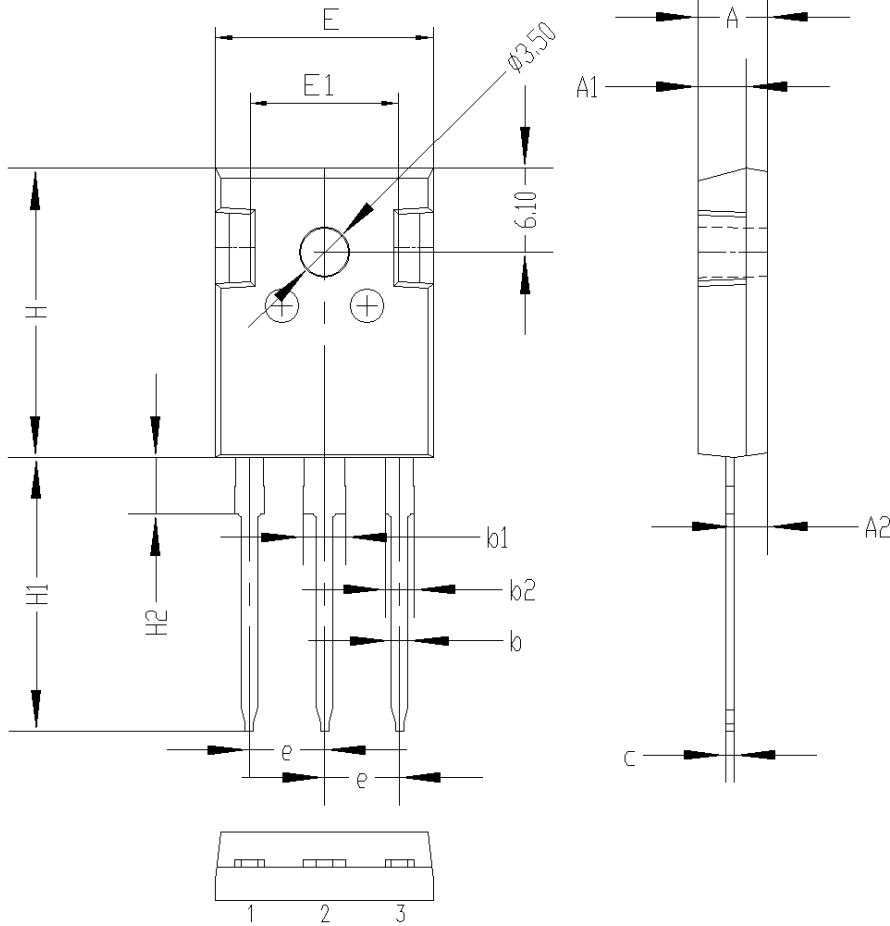
Absolute Maximum Ratings				
Parameter	Symbol	Test Conditions	Values	Units
Cathode to anode voltage	V_R		600	V
Continuous forward current	$I_{F(AV)}$	$T_c = 25^\circ\text{C}$	60	A
Single pulse forward current	I_{FSM}	$T_c = 25^\circ\text{C}$	500	
Maximum repetitive forward current	I_{FRM}	Square wave, 20 kHz	120	
Operating junction and storage temperatures	T_j, T_{stg}		-55 to 175	$^\circ\text{C}$

Electrical Specifications (T _j =25°C)						
Parameter	Symbol	Test Conditions	Min	Typ.	Max.	Units
Breakdown voltage	V _{BR} ,	I _R =100μA;	600	680		V
Blocking voltage	V _r					
Forward voltage	V _F	I _F =60 A		1.35	1.55	
		I _F =60A, T _j =125°C		1.20	1.45	
Reverse leakage current	I _R	V _R =V _R rated			40	μA
		T _J =150°C, V _R =V _R rated			200	
Reverse recovery time	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		29	40	

Symbol	Paramter	Typ	Units
R _{θJC}	Junction-to-Case	0.68	°C/W

Package Information

TO-247 PACKAGE



	單位: mm		
	MIN	NOM	MAX
A	4.8	5	5.2
A1	3.3	3.5	3.7
A2	2.1	2.3	2.5
b	1	1.2	1.4
b1	2.9	3.1	3.3
b2	1.9	2.1	2.3
c	0.4	0.6	0.8
e	5.25	5.45	5.65
E	15.6	15.8	16
E1	10.6	10.8	11
H	20.8	21	21.2
H1	19.4	19.9	20.4
H2	3.9	4.1	4.3
G	5.9	6.1	6.3
ØP	3.3	3.5	3.7