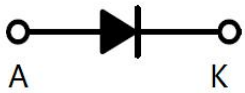
FRED
Ultrafast Soft Recovery Diode, 120A

Features:

- Ultrafast Recovery
- 175°C operating junction temperature
- High frequency operation
- Low power loss, less RFI and EMI
- Low I_R value
- High surge capacity
- Epitaxial chip construction



Product Summary	
V_R	1200 V
$I_{F(AV)}$	120A
t_{rr}	56 ns

Description/Applications

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

Absolute Maximum Ratings				
Parameter	**Symbol**	**Test Conditions**	**Values**	**Units**
Repetitive peak reverse voltage	V_{RRM}		1200	V
Continuous forward current	$I_{F(AV)}$	Tc =110°C	120	A
Single pulse forward current	I_{FSM}	Tc =25°C	960	
Maximum repetitive forward current	I_{FRM}	Square wave, 20kHZ	120	
Operating junction	Tj		175	°C
Storage temperatures	Tstg		-55 to +175	°C

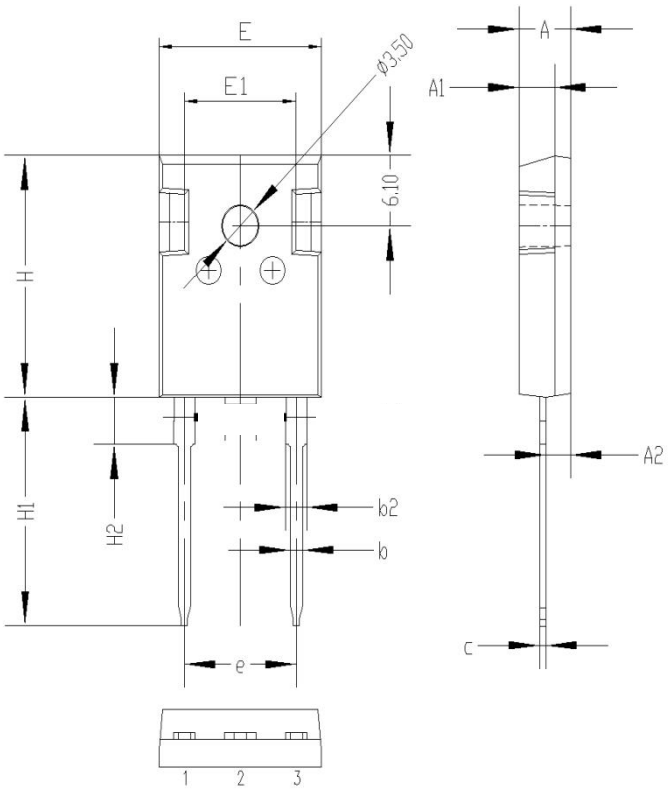
Electrical characteristics (Ta=25°C unless otherwise specified)						
Parameter	**Symbol**	**Test Conditions**	**Min**	**Typ.**	**Max.**	**Units**
Breakdown voltage Blocking voltage	V_{BR}, V_R	I_R=100μA	1200			V
Forward voltage (Per Diode)	V_F	I_F=60A		2.0	2.6	
		I_F=60A, Tj =125°C		1.9	2.3	
Reverse leakage current(Per Diode)	I_R	V_R= V_{RRM}			20	μA
		Tj=150°C, V_R=1200V			200	
Reverse recovery time(Per Diode)	t_{rr}	I_F=0.5A, I_R=1A, I_{RR}=0.25A		90	130	ns
		I_F=1A,V_R=30V, di/*dt* =200A/us		56	70	

Thermal characteristics

Paramter	**Symbol**	Typ	Units
Junction-to-Case	$R_{\theta JC}$	0.35	℃/W

Package Information

TO-247-2 PACKAGE



Symbol	Unit mm		
	Min	**Typ**	Max
A	4.8	5.00	5.20
A1	3.3	3.5	3.7
A2	2.20	2.40	2.60
b	1.00	1.2	1.40
b2	1.8	2.0	2.2
c	0.50	0.60	0.70
e	10.7	10.9	11.1
E	15.2	15.7	16.2
H	20.8	21	21.2
H1	19.5	20.0	20.5
H2	3.9	4.1	4.3
G	5.9	6.1	6.3
ΦP	3.30	3.50	3.70