

### FEATURES

- ◇ Hyper fast recovery time
- ◇ Soft recovery characteristics
- ◇ Low forward voltage
- ◇ Low stored charge
- ◇ Low leakage current
- ◇ Low recovery loss
- ◇ High junction temperature
- ◇ Epitaxial planar construction

### MACHANICAL DATA

- ◇ Case: TO220AC and TO-220FAC outline plastic package
- ◇ Terminal: Matte tin plated, solderable per MIL-STD-750, Method 2026
- ◇ Molding Compound Flammability Rating:UL94-0
- ◇ High temperature soldering guaranteed: 260°C /10second

### ORDERING INFORMATION

- ◇ Device: HFD08S120, HFD08S120F
- ◇ Package: TO-220AC, TO-220FAC
- ◇ Marking: As marked
- ◇ Material: RoHS compliant
- ◇ Packing: Tube
- ◇ Quantity box:1,000pcs

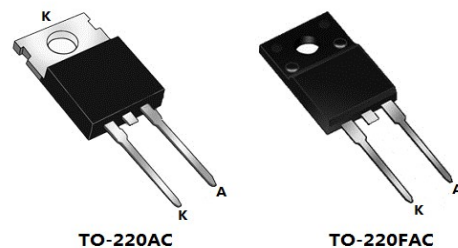
### APPLICATIONS

- ◇ Switching mode power supply
- ◇ Motor control
- ◇ Inverters, Converters
- ◇ Freewheeling, Snubber, PFC circuits
- ◇ Polarity protection

### SYMBOL



### PACKAGE OUTLINE



## ABSOLUTE MAXIMUM RATING (Tamb=25°C, unless otherwise specified)

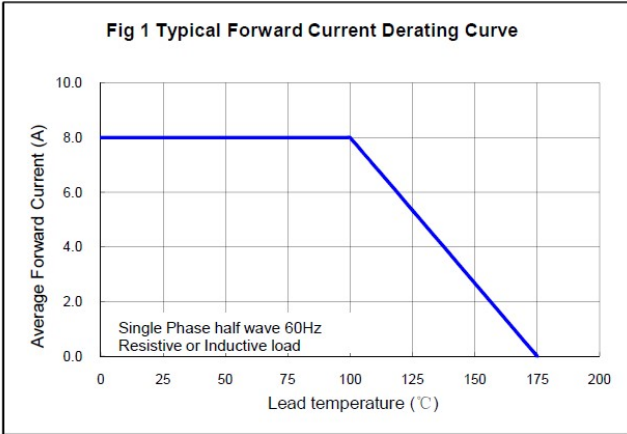
Symbol	Parameter	Value	Units
$V_{RRM}$	DC Blocking Voltage	1200	V
$I_{F(AV)}$	Average Forward Current	8	A
$I_{FSM}$	Peak Forward Surge Current, 8.3ms single half sine-wave	80	A
$T_J$	Operating Junction Temperature	-55~+175	°C
$T_{STG}$	Storage Temperature	-55~+150	°C

## ELECTRICAL CHARACTERISTICS (Tamb=25°C, unless otherwise specified)

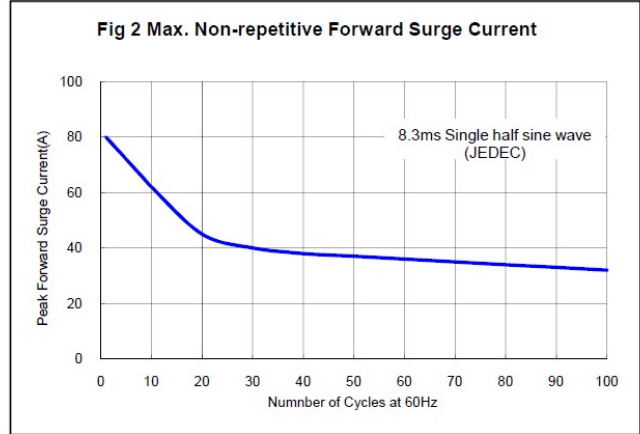
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_F$	Forward Voltage	$I_F = 8A$ $T_a = 25^\circ C$		2.80	3.30	V
		$I_F = 8A$ $T_a = 125^\circ C$		2.20	2.80	V
$V_R$	Reverse Breakdown Voltage	$I_R = 100\mu A$	1200			V
$I_R$	Reverse Leakage Current	$V_R = 1200V$ $T_a = 25^\circ C$			10	$\mu A$
		$V_R = 1200V$ $T_a = 125^\circ C$			100	$\mu A$
$T_{rr}$	Reverse Recovery Time	$I_F = 0.5A, I_R = 1A$ $I_{rr} = 0.25A$		25	40	ns
		$I_F = 1A, V_R = 30V$ $di/dt = -200A/\mu s$		23		ns

### ELECTRICAL CHARACTERISTICS CURVE

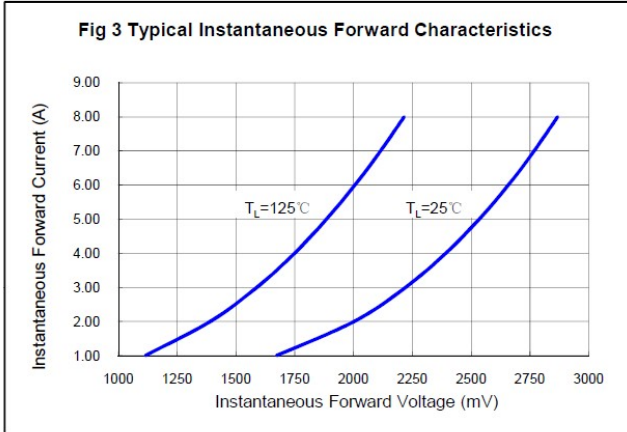
**Fig 1 Typical Forward Current Derating Curve**



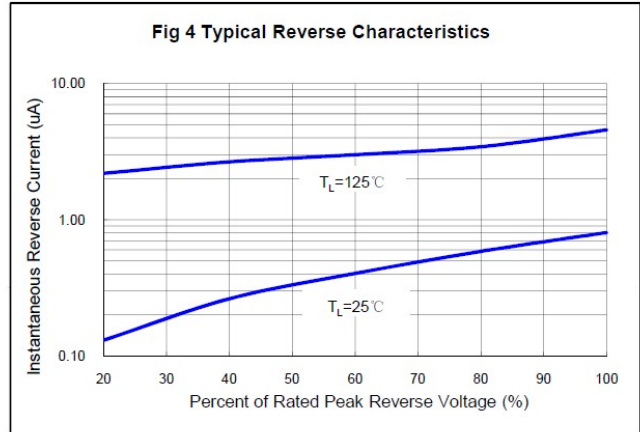
**Fig 2 Max. Non-repetitive Forward Surge Current**



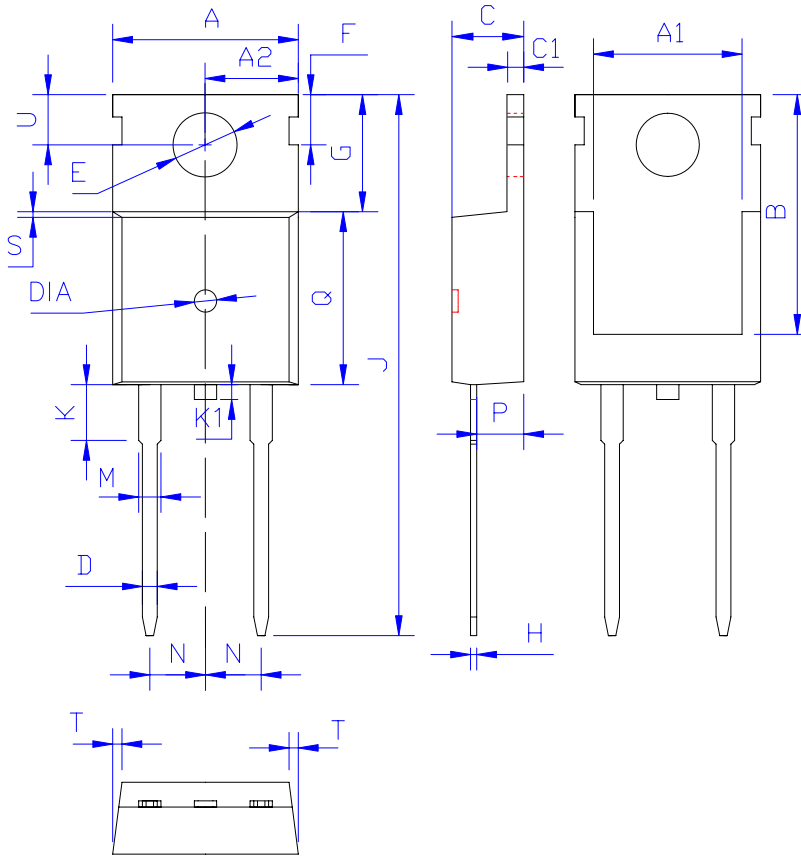
**Fig 3 Typical Instantaneous Forward Characteristics**



**Fig 4 Typical Reverse Characteristics**

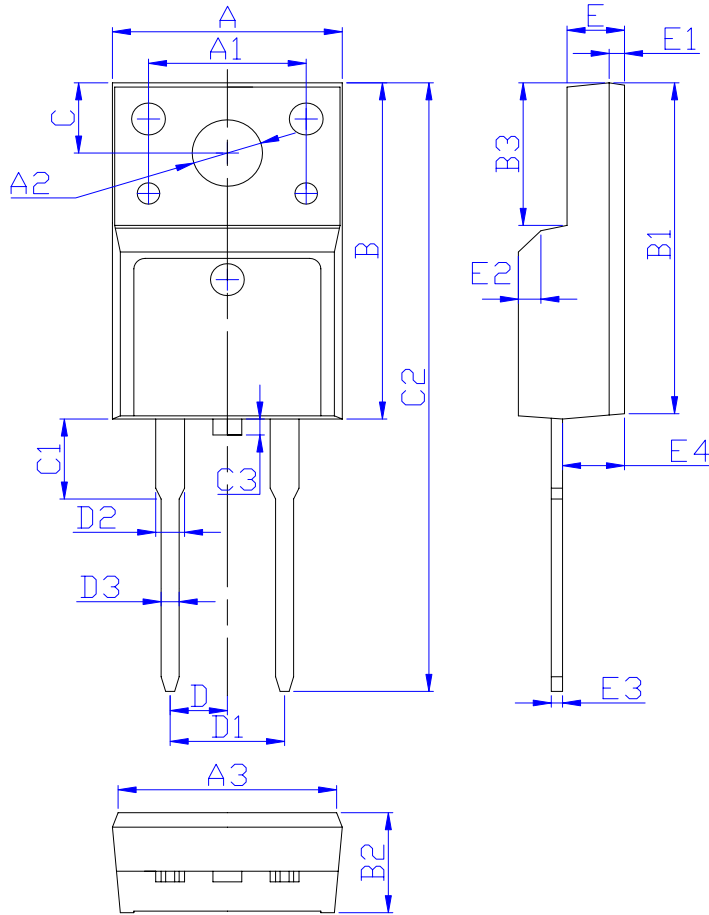


## TO-220AC PACKAGE OUTLINE DIMENSIONS



DIM	MILLIMETERS
A	10.00±0.30
A1	8.00±0.30
A2	5.00±0.30
B	13.20±0.40
C	4.50±0.20
C1	1.30±0.20
D	0.80±0.20
E	3.60±0.20
F	3.00±0.30
G	6.60±0.40
H	0.50±0.20
J	28.88±0.50
K	3.00±0.30
K1	1.5±0.30
M	1.30±0.30
N	Typical 2.54
P	2.40±0.40
Q	9.20±0.40
S	0.25±0.15
T	0.25±0.15
U	2.80±0.30
DIA	Φ1.50±0.10 Depth 0.05~0.45

(Unit: mm)

**TO-220FAC PACKAGE OUTLINE DIMENSIONS**


DIM	MILLIMETERS
<b>A</b>	10.16 $\pm$ 0.30
<b>A1</b>	7.00 $\pm$ 0.20
<b>A2</b>	3.12 $\pm$ 0.20
<b>A3</b>	9.70 $\pm$ 0.30
<b>B</b>	15.90 $\pm$ 0.50
<b>B1</b>	15.60 $\pm$ 0.50
<b>B2</b>	4.70 $\pm$ 0.30
<b>B3</b>	6.70 $\pm$ 0.30
<b>C</b>	3.30 $\pm$ 0.25
<b>C1</b>	3.25 $\pm$ 0.30
<b>C2</b>	28.70 $\pm$ 0.50
<b>C3</b>	1.6 (MAX)
<b>D</b>	2.54 $\pm$ 0.20
<b>D1</b>	5.08 $\pm$ 0.20
<b>D2</b>	1.47 (MAX)
<b>D3</b>	0.80 $\pm$ 0.20
<b>E</b>	2.55 $\pm$ 0.25
<b>E1</b>	0.70 $\pm$ 0.25
<b>E2</b>	1.00 $\times$ 45°
<b>E3</b>	0.50 $\pm$ 0.20
<b>E4</b>	2.75 $\pm$ 0.30

(Unit: mm)