

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

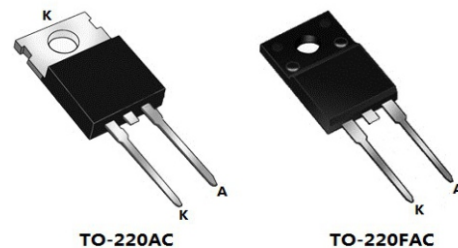
APPLICATIONS

- ◇ 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	(μA
		$V_R = 1200V$ $T_a=125^\circ C$			100	(μA
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

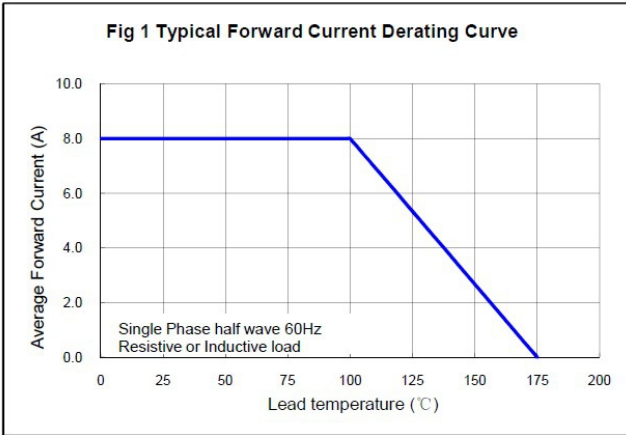


Fig 2 Max. Non-repetitive Forward Surge Current

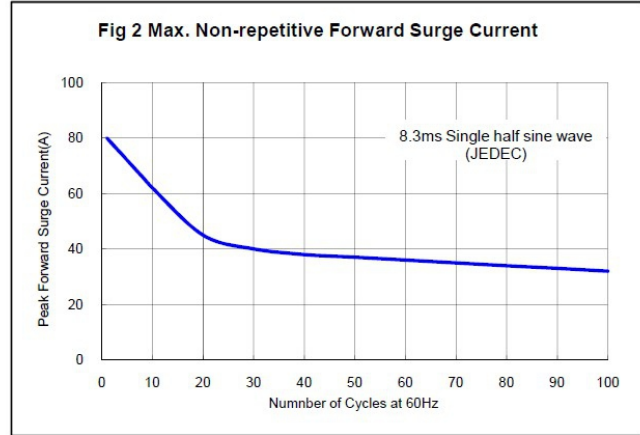


Fig 3 Typical Instantaneous Forward Characteristics

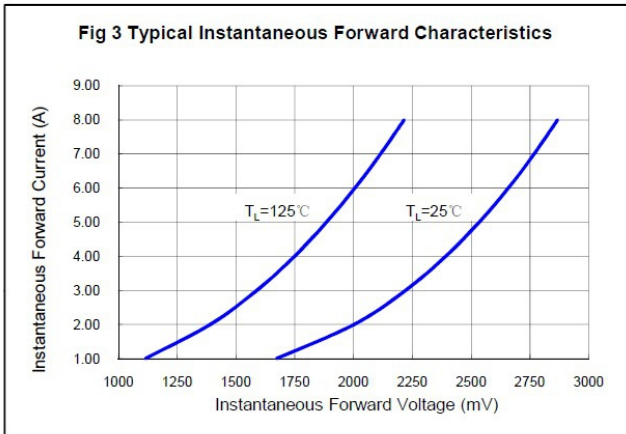
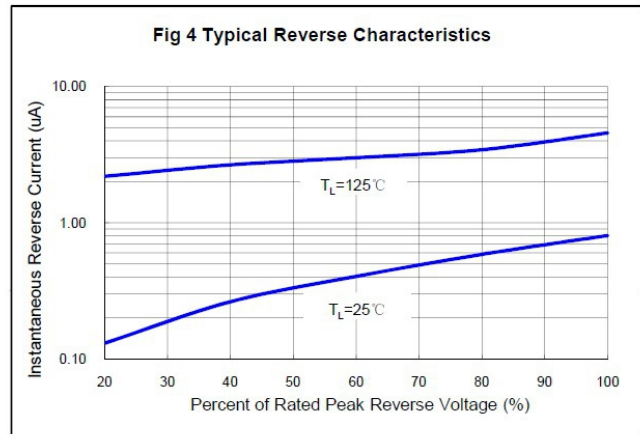
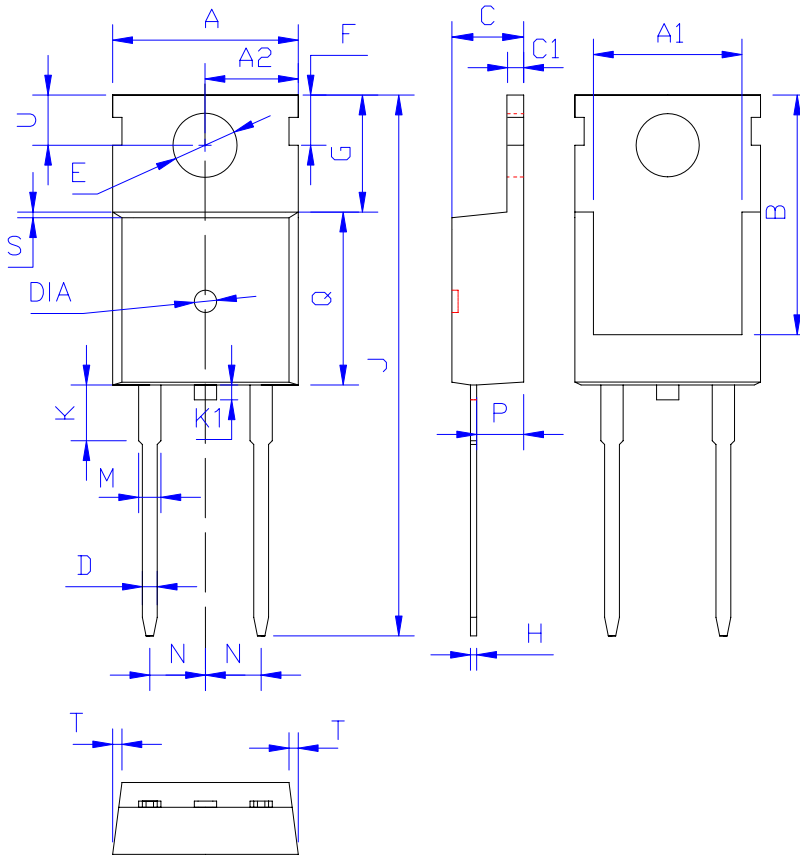


Fig 4 Typical Reverse Characteristics



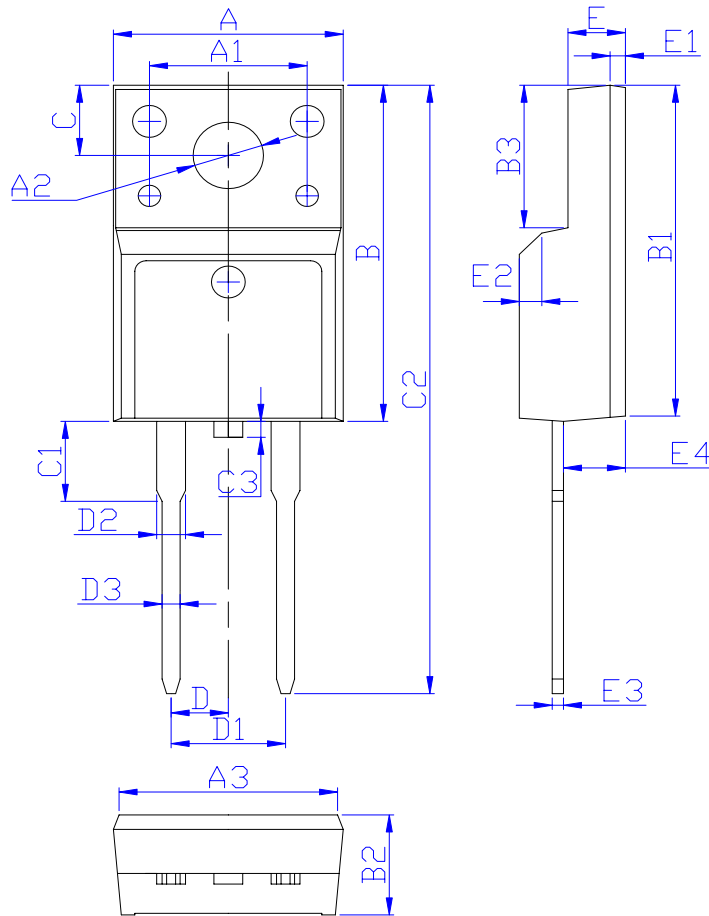
TO-220AC PACKAGE OUTLINE DIMENSIONS



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	J1.50±0.10 Depth 0.05: 0.45

(Unit) mm)

TO-220FAC PACKAGE OUTLINE DIMENSIONS



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

(Unit) mm)