



# HFD10G60D/HFD10G60/HFD10S60F

Hyper Fast Recovery Diode

## 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: TO-252, TO-220AC, 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: HFD10G60D, HFD10G60 HFD10G60F
- ◇ Package: TO-252, TO-220AC, TO-220AC
- ◇ Marking: As marked
- ◇ Material: RoHS compliant
- ◇ Packing: Tube or Taping
- ◇ Minimum Packing Quantity: 1,000pcs/box or 800pcs/reel

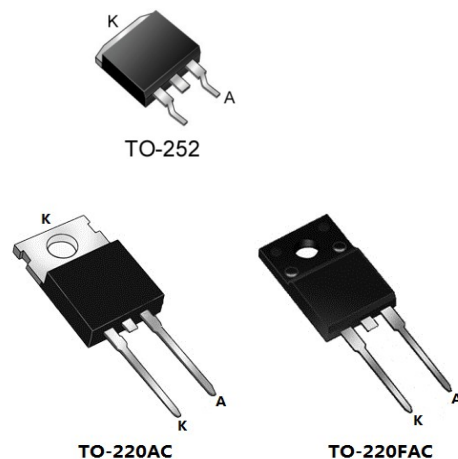
## APPLICATIONS

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

## SYMBOL



## PACKAGE OUTLINE





# HFD10G60D/HFD10G60/HFD10S60F

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

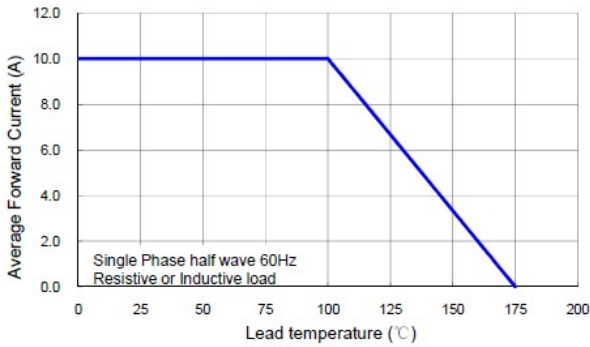
Symbol	Parameter	Value	Units
$V_{RRM}$	DC Blocking Voltage	600	V
$I_{F(AV)}$	Average Forward Current	10	A
$I_{FSM}$	Peak Forward Surge Current, 8.3ms single half sine-wave	80	A
$T_J$	Operating Junction Temperature	-55~+175	°C
$T_{STG}$	Storage Temperature	-55~+150	°C

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

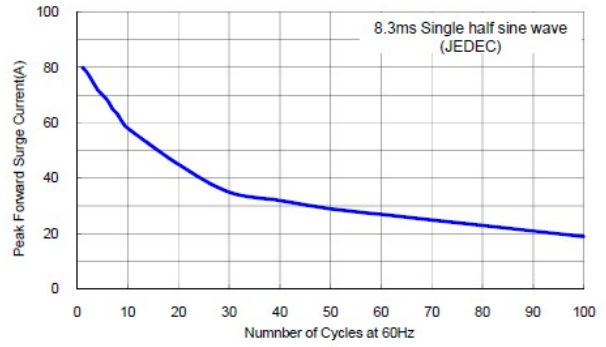
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_F$	Forward Voltage	$I_F = 10A$ Ta=25°C		1.35	1.60	V
		$I_F = 10A$ Ta=125°C		1.25	1.50	V
$V_R$	Reverse Breakdown Voltage	$I_R = 50\mu A$	600			V
$I_R$	Reverse Leakage Current	$V_R = 600V$ Ta=25°C			2	$\mu A$
		$V_R = 600V$ Ta=125°C			50	$\mu A$
$T_{rr}$	Reverse Recovery Time	$I_F = 0.5A, I_R = 1A$ $I_{rr} = 0.25A$		26	30	ns

### ELECTRICAL CHARACTERISTICS CURVE

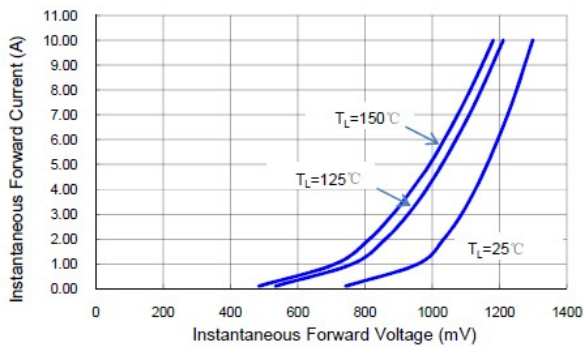
**Fig 1 Typical Forward Current Derating Curve**



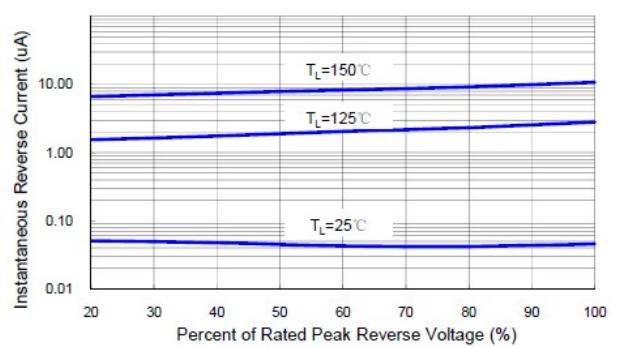
**Fig 2 Max. Non-repetitive Forward Surge Current**



**Fig 3 Typical Instantaneous Forward Characteristics**



**Fig 4 Typical Reverse Characteristics**

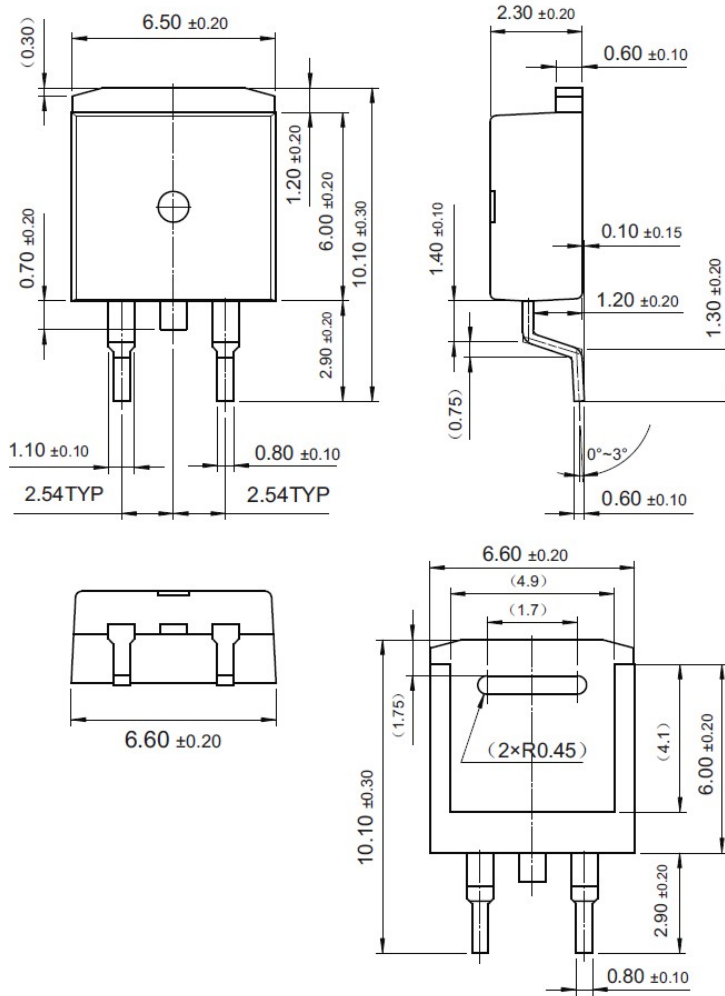




# HFD10G60D/HFD10G60/HFD10S60F

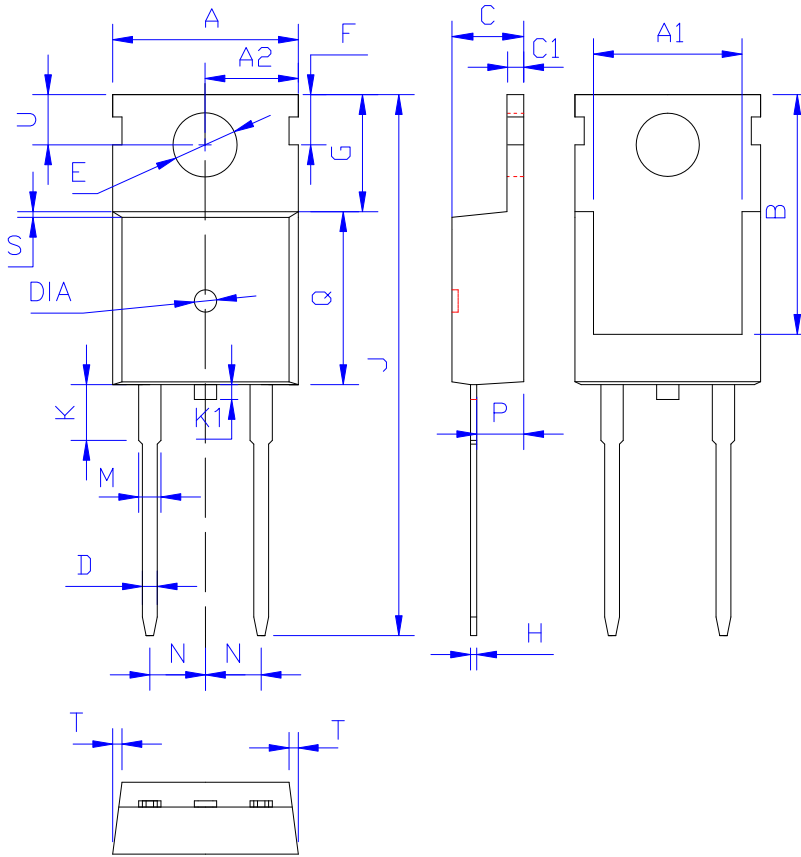
Hyper Fast Recovery Diode

## TO-252 PACKAGE OUTLINE DIMENSIONS



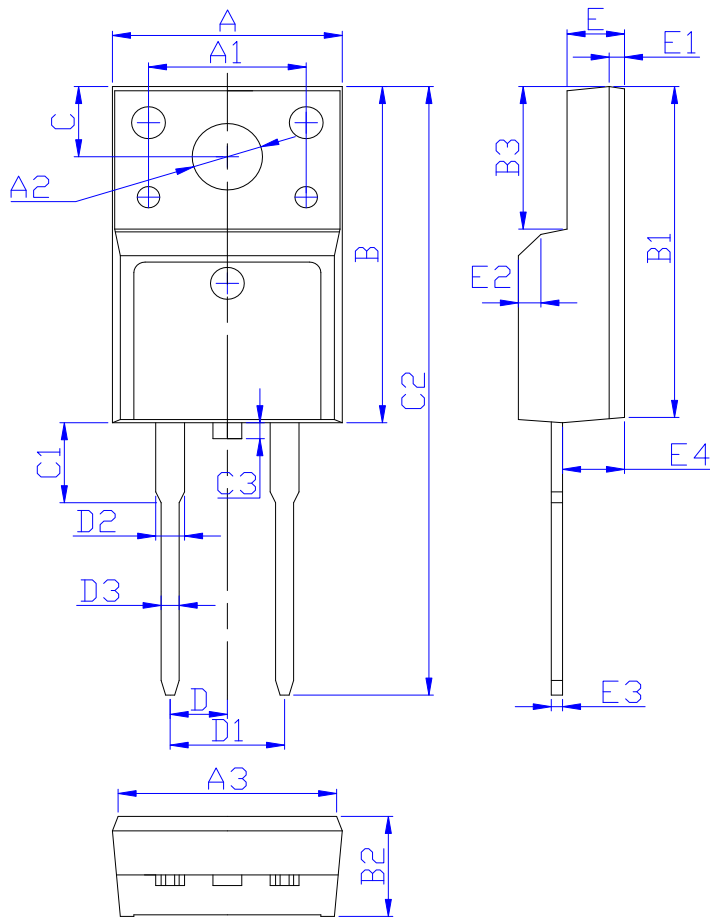
(Unit: mm)

### 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

## 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