

### 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 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

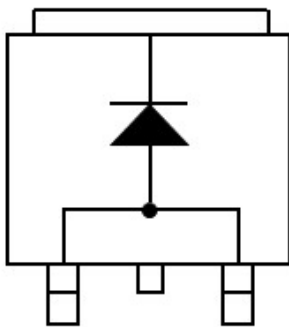
### ORDERING INFORMATION

- ◇ Device: HFD10G40D
- ◇ Package: TO-252
- ◇ Marking: As marked
- ◇ Material: RoHS compliant
- ◇ Packing: Tape and Reel
- ◇ Minimum packing Quantity : 2,500pcs per reel

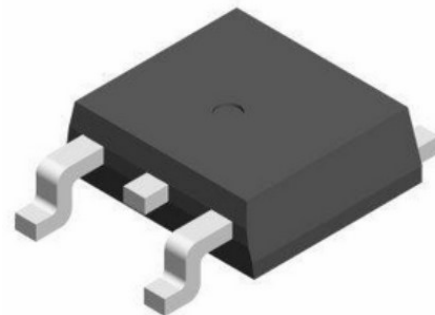
### APPLICATIONS

- ◇ 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)

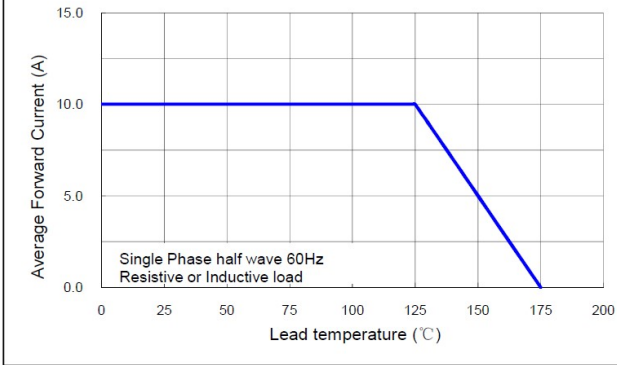
Symbol	Parameter	Value	Units
$V_{RRM}$	DC Blocking Voltage	400	V
$I_{F(AV)}$	Average Forward Current	10	A
$I_{FSM}$	Peak Forward Surge Current, 8.3ms single half sine-wave	80	A
$T_J$	Operating Junction Temperature	-55~+175	°C
$T_{STG}$	Storage Temperature	-55~+150	°C

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

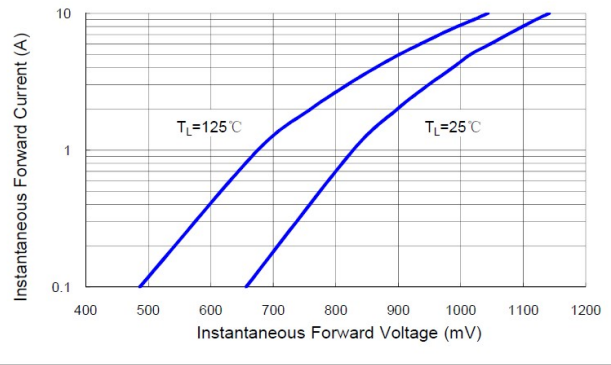
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_F$	Forward Voltage	$I_F = 10A$ Ta=25°C		1.15	1.40	V
		$I_F = 10A$ Ta=125°C		1.05	1.30	V
$V_R$	Reverse Breakdown Voltage	$I_R = 50\mu A$	400			V
$I_R$	Reverse Leakage Current	$V_R = 400V$ Ta=25°C			2	$\mu A$
		$V_R = 400V$ Ta=125°C			50	$\mu A$
$T_{rr}$	Reverse Recovery Time	$I_F = 0.5A, I_R = 1A$ $I_{rr} = 0.25A$		21	30	ns
		$I_F = 1A, V_R = 30V$ $di/dt = -200A/\mu s$		21		ns

### ELECTRICAL CHARACTERISTICS CURVE

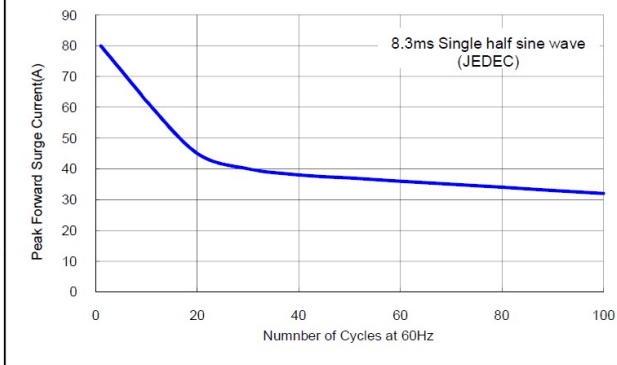
**Fig 1 Typical Forward Current Derating Curve**



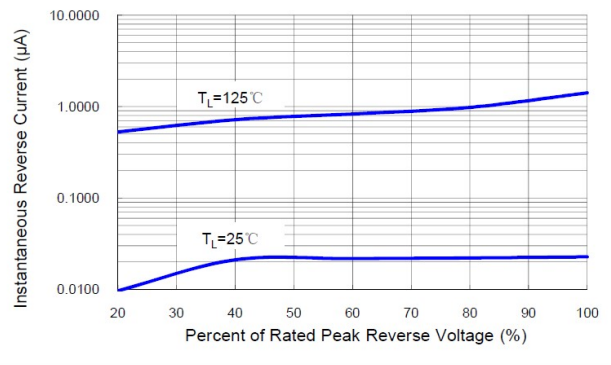
**Fig 2 Typical Instantaneous Forward Characteristics**



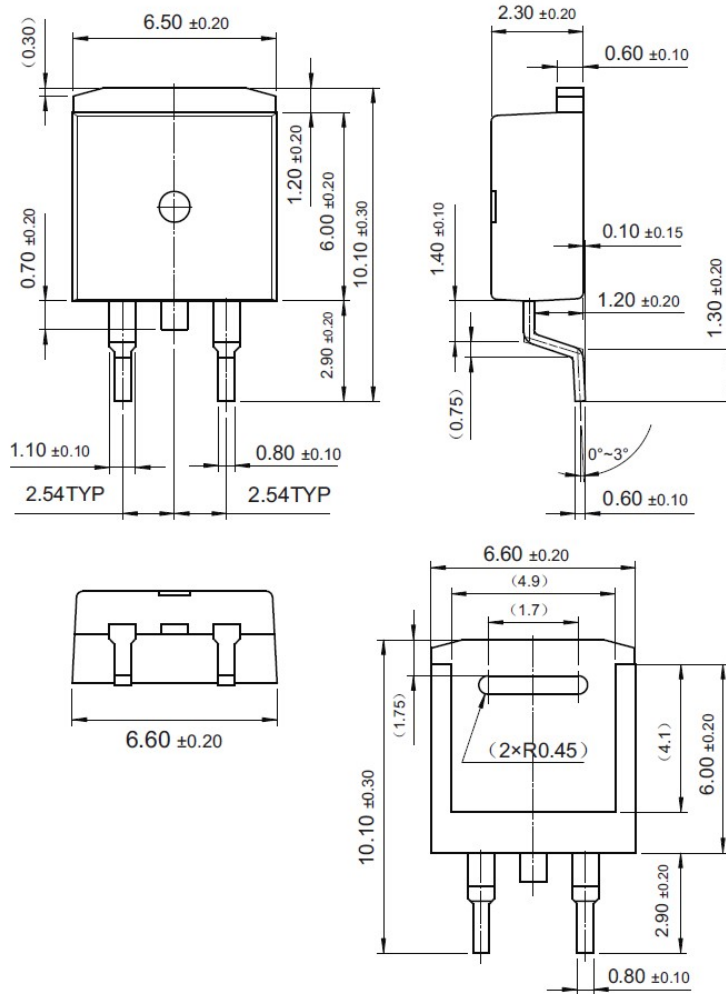
**Fig 3 Max. Non-repetitive Forward Surge Current**



**Fig 4 Typical Reverse Characteristics**



## TO-252 PACKAGE OUTLINE DIMENSIONS



(Unit: mm)