

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

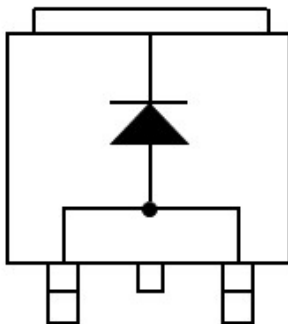
ORDERING INFORMATION

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

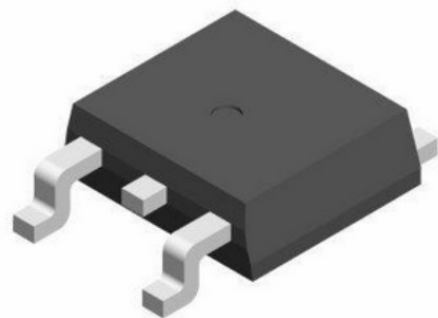
APPLICATIONS

- ✧ 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	$I_F = 10A$ $T_a=25^\circ C$		1.15	1.40	V
		$I_F = 10A$ $T_a=125^\circ C$		1.05	1.30	V
V_R	Reverse Breakdown Voltage	$I_R = 50(\mu A$	400			V
I_R	Reverse Leakage Current	$V_R = 400V$ $T_a=25^\circ C$			2	$(\mu A$
		$V_R = 400V$ $T_a=125^\circ C$			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

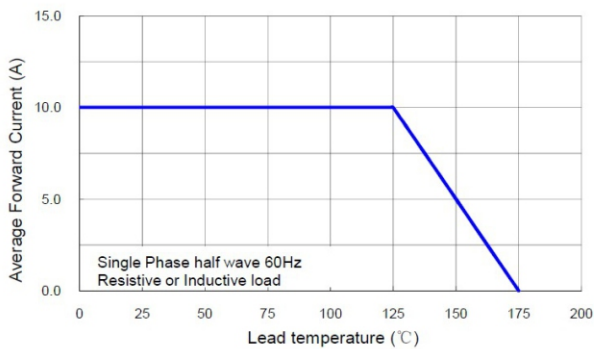


Fig 2 Typical Instantaneous Forward Characteristics

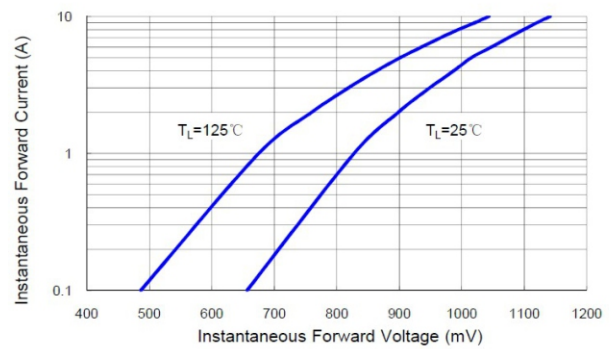


Fig 3 Max. Non-repetitive Forward Surge Current

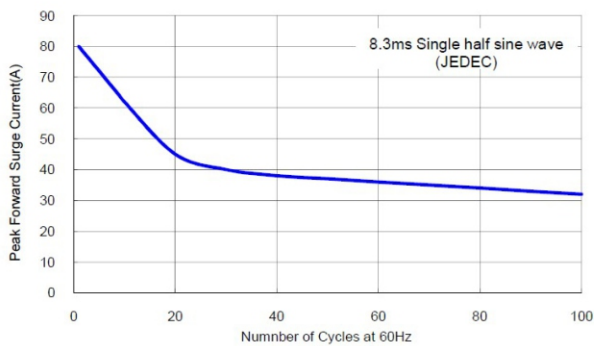
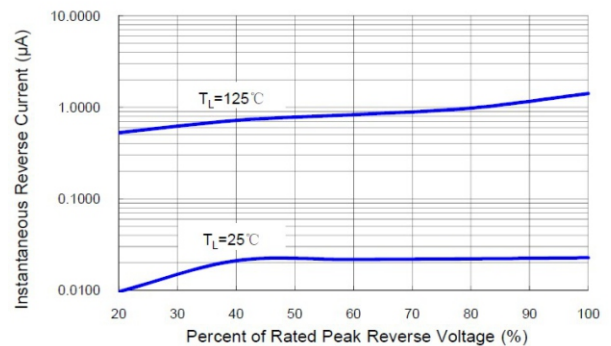
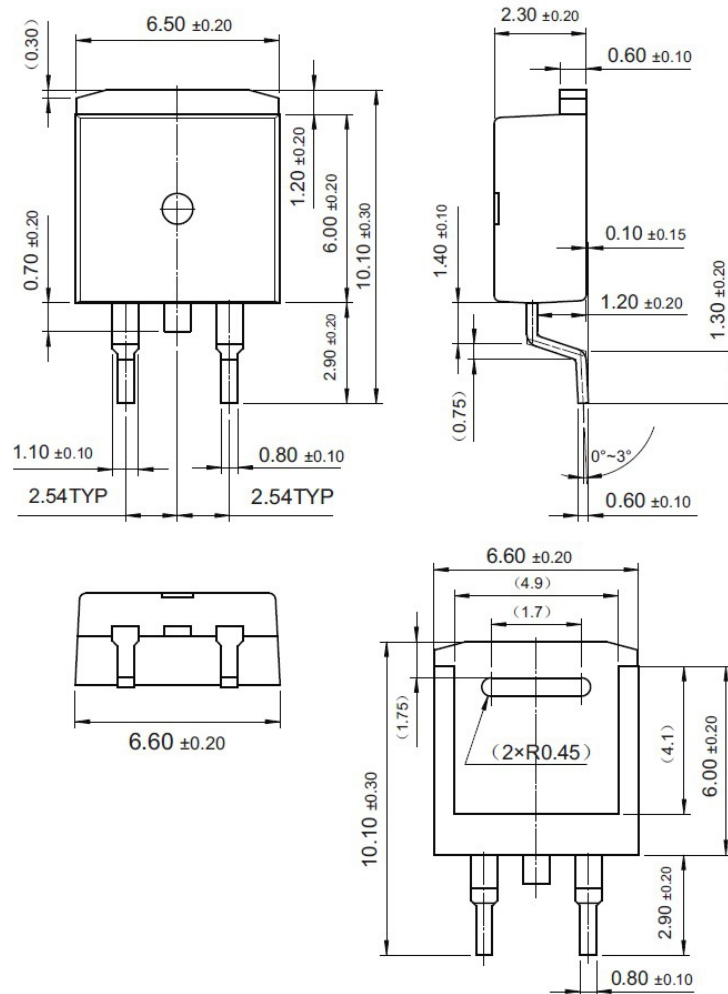


Fig 4 Typical Reverse Characteristics



TO-252 PACKAGE OUTLINE DIMENSIONS



(Unit: mm: