

Reverse Voltage 35 to 60 V
Forward Current 15 A

The drawing shows the mechanical specifications for the 74VHC00 package. The top view includes dimensions for the overall width (0.415 MAX.), pin pitch (0.154), and individual pin widths (0.055). The side view shows the package height (0.148 MAX.), mounting tab dimensions (0.145, 0.135), and lead dimensions (0.110, 0.100). A pin configuration diagram indicates that PIN 1 and PIN 3 are inputs, PIN 2 is the output, and the CASE is connected to ground.

Top View Dimensions:

- Overall Width: 0.415 (10.54) MAX.
- Pin Pitch: 0.154 (3.91)
- Pin 1 Width: 0.055 (1.39)
- Pin 2 Width: 0.045 (1.14)
- Pin 3 Width: 0.055 (1.39)
- Pin 1 to Pin 2 Center Distance: 0.370 (9.40)
- Pin 2 to Pin 3 Center Distance: 0.360 (9.14)
- Pin 1 to Pin 3 Center Distance: 0.730 (18.54)
- Pin 1 to Pin 2 Edge Distance: 0.113 (2.87)
- Pin 2 to Pin 3 Edge Distance: 0.103 (2.62)
- Pin 1 to Pin 3 Edge Distance: 0.410 (10.41)
- Pin 2 to Pin 3 Edge Distance: 0.390 (9.91)
- Pin 1 to Pin 2 Edge Distance: 0.635 (16.13)
- Pin 2 to Pin 3 Edge Distance: 0.625 (15.87)

Side View Dimensions:

- Overall Height: 0.148 (29.16)
- Mounting Tab Height: 0.118 (28.40)
- Mounting Tab Width: 0.145 (3.68)
- Mounting Tab Thickness: 0.135 (3.43)
- Lead Width: 0.110 (2.79)
- Lead Thickness: 0.100 (2.54)
- Lead Length: 0.560 (14.22)
- Lead to Pin 2 Distance: 0.530 (13.46)
- Lead to Pin 3 Distance: 0.603 (15.32)
- Lead to Pin 1 Distance: 0.573 (14.55)
- Lead to Pin 2 Edge Distance: 0.022 (0.56)
- Lead to Pin 3 Edge Distance: 0.014 (0.36)

Pin Configuration:

- PIN 1: Input
- PIN 2: Output
- PIN 3: Input
- CASE: Ground

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed:
250°C/10 seconds, 0.25" (6.35mm) from case

The drawing shows a 3-pin connector with the following dimensions:

- Top View:**
 - Overall width: $0.405 (10.27)$ / $0.383 (9.72)$
 - Pin pitch: $0.191 (4.85)$ / $0.171 (4.35)$
 - Pin diameter: $0.060 (1.52)$
 - Pin 1 to center: $0.037 (0.94)$ / $0.027 (0.69)$
 - Pin 2 to center: $0.037 (0.94)$ / $0.027 (0.69)$
 - Pin 3 to center: $0.037 (0.94)$ / $0.027 (0.69)$
- Front View:**
 - Overall height: $0.600 (15.5)$ / $0.580 (14.5)$
 - Pin 1 to top: $0.560 (14.22)$ / $0.530 (13.46)$
 - Pin 2 to top: $0.560 (14.22)$ / $0.530 (13.46)$
 - Pin 3 to top: $0.560 (14.22)$ / $0.530 (13.46)$
 - Pin 1 to bottom: $0.105 (2.67)$ / $0.095 (2.41)$
 - Pin 2 to bottom: $0.105 (2.67)$ / $0.095 (2.41)$
 - Pin 3 to bottom: $0.105 (2.67)$ / $0.095 (2.41)$
- Side View:**
 - Overall height: $0.676 (17.2)$ / $0.646 (16.4)$
 - Pin 1 to top: $0.140 (3.56)$ / $0.130 (3.30)$
 - Pin 2 to top: $0.140 (3.56)$ / $0.130 (3.30)$
 - Pin 3 to top: $0.140 (3.56)$ / $0.130 (3.30)$
 - Pin 1 to bottom: $0.350 (8.89)$ / $0.330 (8.38)$
 - Pin 2 to bottom: $0.350 (8.89)$ / $0.330 (8.38)$
 - Pin 3 to bottom: $0.350 (8.89)$ / $0.330 (8.38)$
- Detail View:**
 - Pin diameter: $0.188 (4.77)$ / $0.172 (4.36)$
 - Pin pitch: $0.110 (2.80)$ / $0.100 (2.54)$
 - Pin 1 to center: $0.131 (3.39)$ / $0.122 (3.08)$
 - Pin 2 to center: $0.131 (3.39)$ / $0.122 (3.08)$
 - Pin 3 to center: $0.131 (3.39)$ / $0.122 (3.08)$

[illegible]

Case: JEDEC TO-220AB, ITO-220AB & TO-263AB
molded plastic body

Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in-lbs maximum

Weight: 0.08 ounce, 2.24 grams

MBR15xxCT, MBRF15xxCT & MBRB15xxCT Series

Dual Schottky Barrier Rectifier

Maximum Ratings (T_C = 25°C unless otherwise noted)

Parameter	Symbol	MBR1535CT	MBR1545CT	MBR1550CT	MBR1560CT	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	35	45	50	60	V
Working peak reverse voltage	V _{RWM}	35	45	50	60	V
Maximum DC blocking voltage	V _{DC}	35	45	50	60	V
Maximum average forward rectified current <i>Total device</i> at T _C = 105°C <i>Per leg</i>	I _{F(AV)}	15 7.5				A
Peak repetitive forward current at T _C = 105°C per leg (rated V _R , 20 KHz sq. wave)	I _{FRM}	15				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	150				A
Peak repetitive reverse surge current per leg at t _p = 2.0μs, 1KHz	I _{RRM}	1.0		0.5		A
Voltage rate of change (rated V _R)	dv/dt	10,000				V/μs
Operating junction temperature range	T _J	−65 to +150				°C
Storage temperature range	T _{STG}	−65 to +175				°C
RMS Isolation voltage (MBRF type only) from terminals to heatsink with t = 1.0 second, RH ≤ 30%	V _{ISOL}	4500 (NOTE 1) 3500 (NOTE 2) 1500 (NOTE 3)				V

Electrical Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	MBR1535CT	MBR1545CT	MBR1550CT	MBR1560CT	Unit
Maximum instantaneous forward voltage per leg (Note 4) at I _F = 7.5A, T _C = 25°C at I _F = 7.5A, T _C = 125°C at I _F = 15A, T _C = 25°C at I _F = 15A, T _C = 125°C	V _F	— 0.57 0.84 0.72		0.75 0.65 — —		V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) T _C = 25°C T _C = 125°C	I _R	0.1 15		1.0 50		mA

Thermal Characteristics (T_C = 25°C unless otherwise noted)

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Maximum thermal resistance per leg	R _{θJA} R _{θJC}	60 3.0	— 5.0	60 3.0	°C/W

Notes:

- (1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
- (2) Clip mounting (on case), where leads do overlap heatsink
- (3) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")
- (4) Pulse test: 300μs pulse width, 1% duty cycle

Ordering Information

Product	Case	Package Code	Package Option
MBR1535CT - MBR1560CT	TO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRF1535CT - MBRF1560CT	ITO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRB1535CT - MBRB1560CT	TO-263AB	31	13" reel, 800/reel, 4.8K/carton
		45	Anti-Static tube, 50/tube, 2K/carton
		81	Anti-Static 13" reel, 800/reel, 4.8K/carton

MBR15xxCT, MBRF15xxCT & MBRB15xxCT Series

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVE

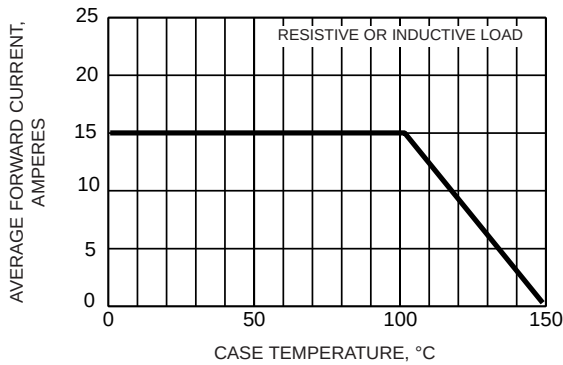


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT

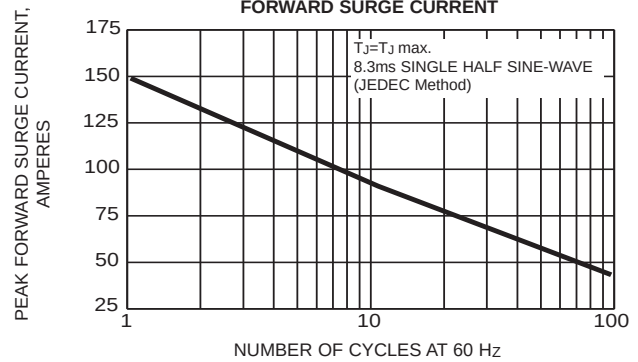


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD
CHARACTERISTICS

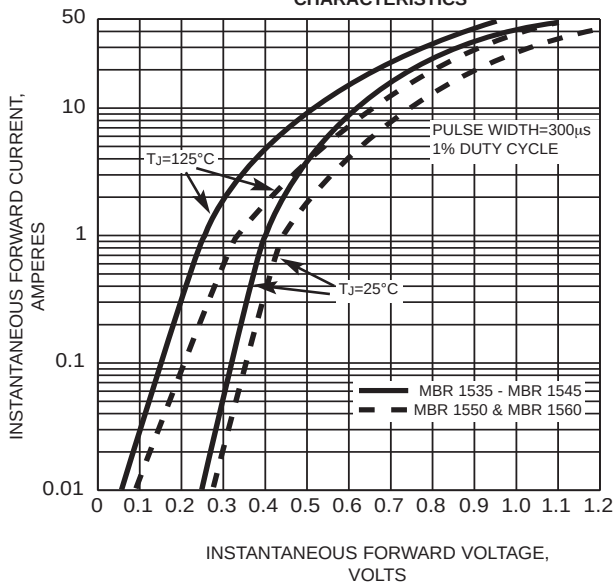


FIG. 4 - TYPICAL REVERSE
CHARACTERISTICS

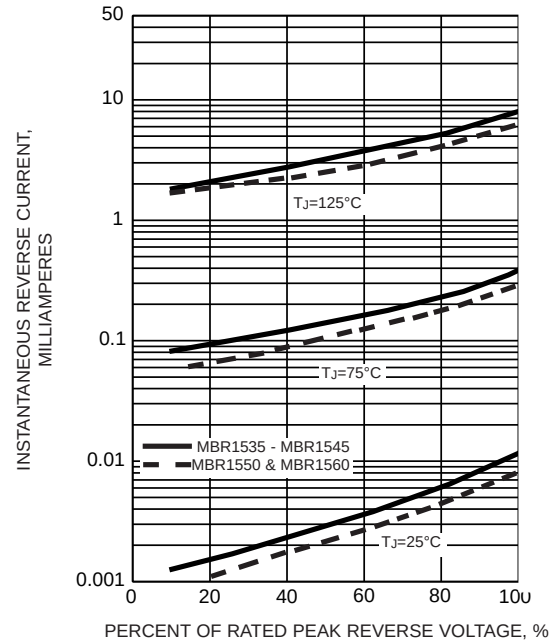


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

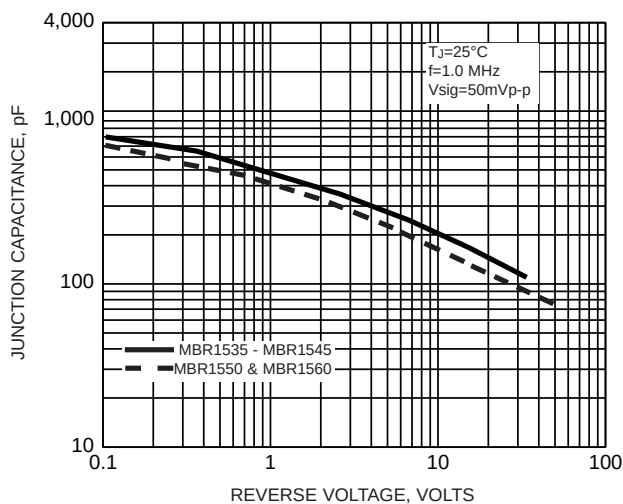


FIG. 6 - TYPICAL TRANSIENT THERMAL
IMPEDANCE PER LEG

