

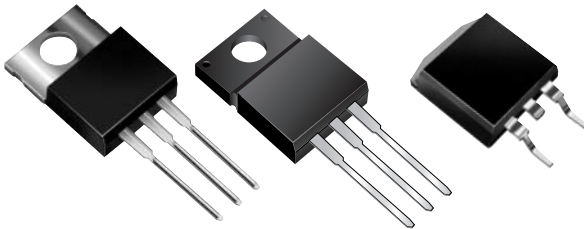


MBR25xxCT, MBRF25xxCT & MBRB25xxCT Series

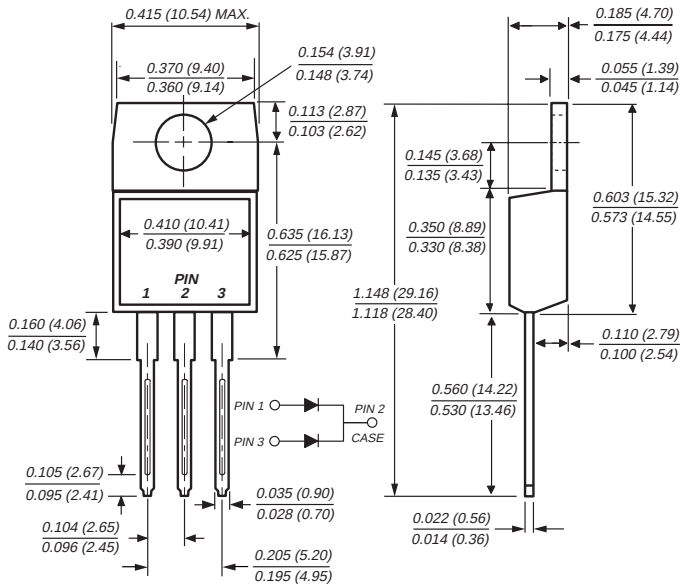
Vishay Semiconductors
formerly General Semiconductor

Dual Schottky Barrier Rectifier

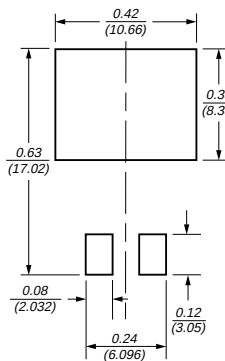
Reverse Voltage 35 to 60A
Forward Current 30A



TO-220AB (MBR25xxCT)

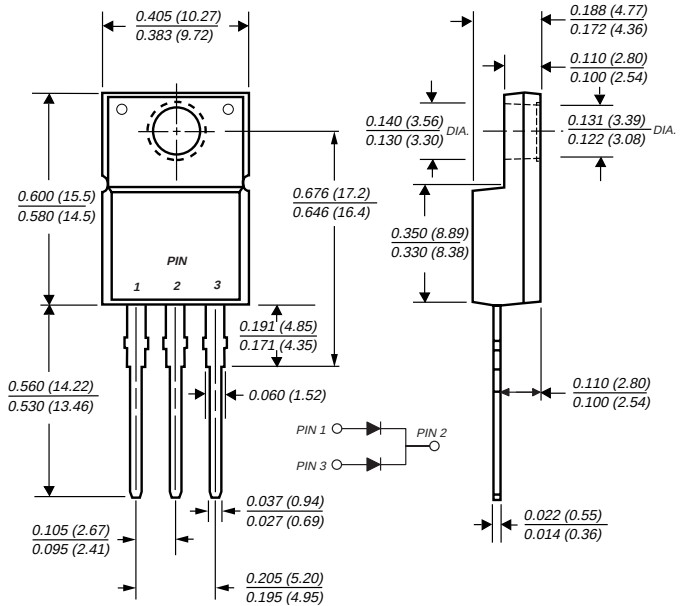


Mounting Pad Layout TO-263AB

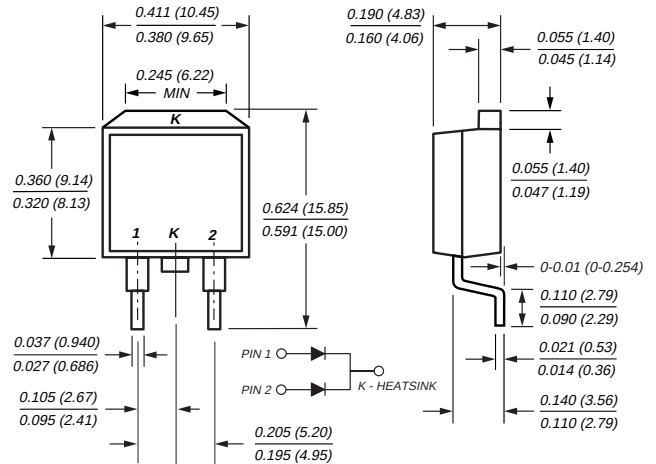


Dimensions in inches
and (millimeters)

ITO-220AB (MBRF25xxCT)



TO-263AB (MBRB25xxCT)



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
- Rated for reverse surge and ESD

Mechanical Data

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 oz., 2.24 g

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

Parameter	Symbol	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	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 = 130°C <i>Per leg</i>	I _{F(AV)}	30 15				A
Peak repetitive forward current per leg at T _C = 130°C (rated V _R , square wave, 20 KHz)	I _{FRM}	30				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) per leg	I _{FSM}	150				A
Peak repetitive reverse current per leg at t _p = 2μs, 1KHz	I _{RRM}	1.0		0.5		A
Peak non-repetitive reverse energy (8/20μs waveform)	E _{RSM}	25				mJ
Electrostatic discharge capacitor voltage Human body model: c = 100pF, R = 1.5kΩ	V _C	25				kV
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 ⁽¹⁾ 3500 ⁽²⁾ 1500 ⁽³⁾				V

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

Parameter	Symbol	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	Unit
Maximum instantaneous forward voltage per leg ⁽⁴⁾ at I _F = 15A, T _C = 25°C at I _F = 15A, T _C = 125°C at I _F = 30A, T _C = 25°C at I _F = 30A, T _C = 125°C	V _F	— — 0.82 0.73	— — — —	0.75 0.65 — —	— — — —	V
Maximum instantaneous reverse current at rated DC blocking voltage per leg (Note 4) T _C = 125°C	I _R	0.2 40	— —	1.0 50	— —	mA

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

Parameter	Symbol	MBR	MBRF	MBRB	Unit
Typical thermal resistance from junction to case per leg	R _{θJC}	1.5	4.5	1.5	°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

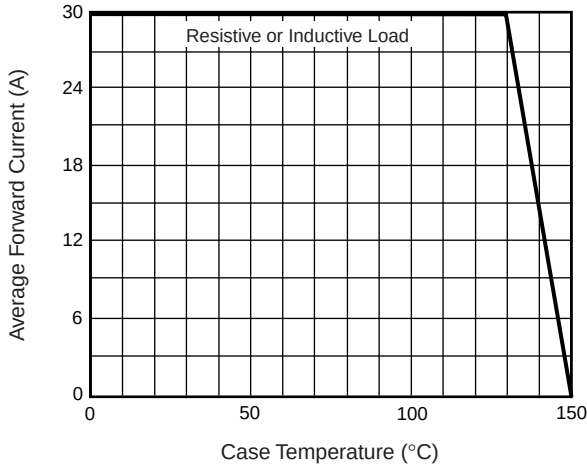
Ordering Information

Product	Case	Package Code	Package Option
MBR2535CT - MBR2560CT	TO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRF2535CT - MBRF2560CT	ITO-220AB	45	Anti-Static tube, 50/tube, 2K/carton
MBRB2535CT - MBRB2560CT	TO-263AB	31 45 81	13" reel, 800/reel, 4.8K/carton Anti-Static tube, 50/tube, 2K/carton Anti-Static 13" reel, 800/reel, 4.8K/carton

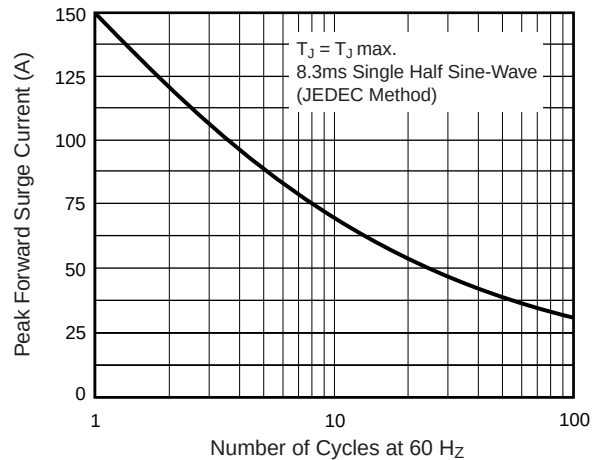


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

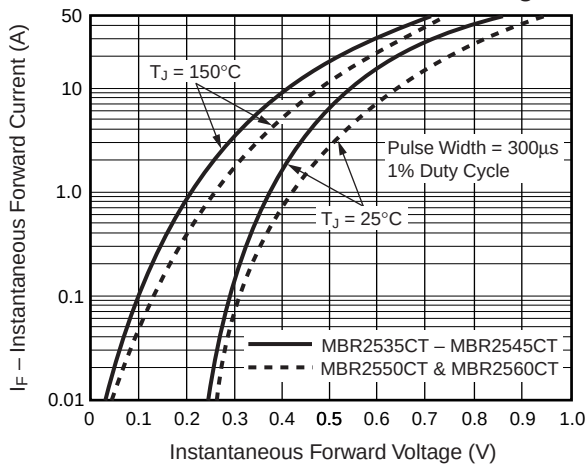
Forward Current Derating Curve



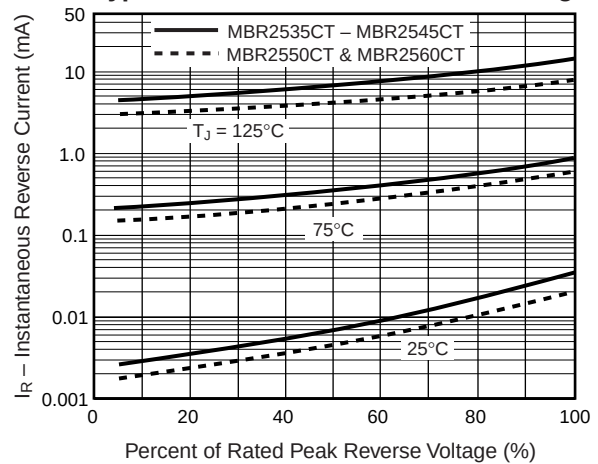
Maximum Non-Repetitive Peak Forward Surge Current Per Leg



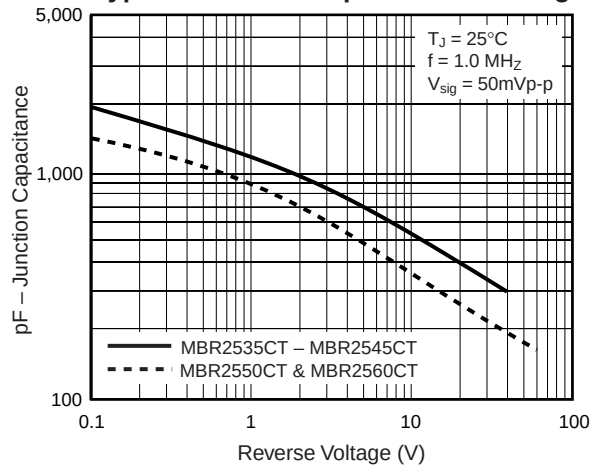
Typical Instantaneous Forward Characteristics Per Leg



Typical Reverse Characteristics Per Leg



Typical Junction Capacitance Per Leg



Typical Transient Thermal Impedance Per Leg

