Technical Data Data Sheet 2882, Rev. -

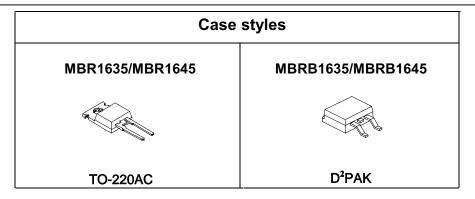
# MBR1635/MBRB1635 / MBR1645/MBRB1645 SCHOTTKY RECTIFIER

## **Applications:**

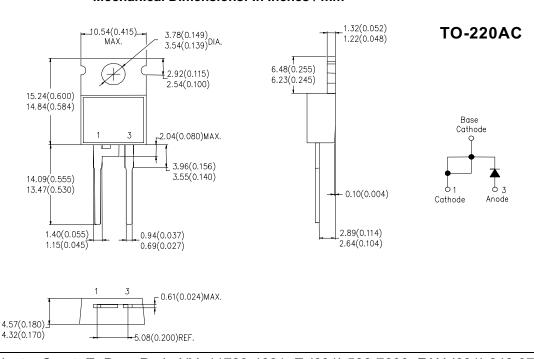
• Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

### Features:

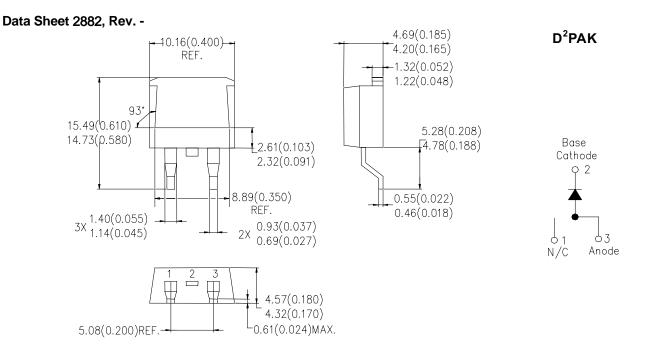
- 150 °C T<sub>J</sub> operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- · Guard ring for enhanced ruggedness and long term reliability



### Mechanical Dimensions: In Inches / mm



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## **Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	35(MBR.1635) 45(MBR.1645)	V
Max. Average Forward Current	I <sub>F(AV)</sub>	@ To = 135 °C (Rated V <sub>R</sub> )	16	А
Max. Peak One Cycle Non- Repetitive Surge Current	I <sub>FSM</sub>	Surge applied at rated load conditions halfwave , single phase, 60Hz	150	А
Peak Repetitive Reverse Surge Current	IRRM	2.0 µsec 1.0 KHz	1.0	А

### **Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop *	$V_{F1}$	@16 A, Pulse, T <sub>J</sub> = 25 °C	0.63	V
	$V_{F2}$	@16 A, Pulse, T <sub>J</sub> = 125 °C	0.57	V
Max. Reverse Current *	I <sub>R1</sub>	$@V_R = Rated V_R, Pulse, T_J = 25 °C$	0.2	mA
	I <sub>R2</sub>	$@V_R = Rated V_R, Pulse, T_J = 125 °C$	40	mA
Max. Junction Capacitance	C <sub>T</sub>	$@V_R = 5 \text{ V}, T_C = 25 \text{ °C} \\ f_{SIG} = 1 \text{MHz},$	1400	pF
Typical Series Inductance	L <sub>S</sub>	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change (Rated V <sub>R</sub> )	dv/dt	-	10,00	V/μs

<sup>\*</sup> Pulse Width < 300µs, Duty Cycle <2%

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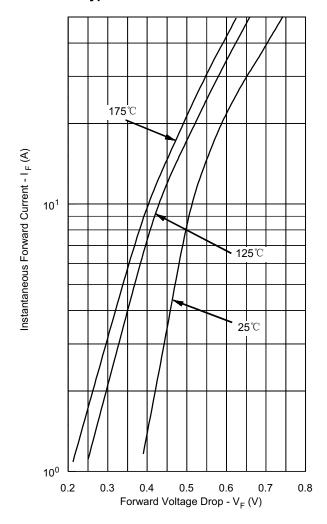


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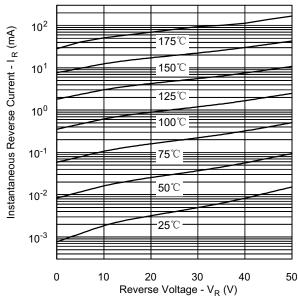
## **Thermal-Mechanical Specifications:**

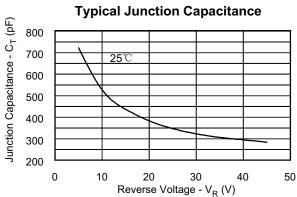
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	TJ	-	-65 to +150	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-65 to +175	°C
Maximum Thermal Resistance Junction to Case	$R_{ heta JC}$	DC operation	1.50	°C/W
Typical Thermal Resistance, Case to Heat Sink	R <sub>ecs</sub>	Mounting surface, smooth and greased	0.50	°C/W
Approximate Weight	wt	-	2	g
Mounting Torque	T <sub>M</sub>	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-220AC D <sup>2</sup> PAK (Suffix "s" for D <sup>2</sup> PAK; "MBRB xxxx" for D <sup>2</sup> PAK)			

### **Typical Forward Characteristics**



## **Typical Reverse Characteristics**





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