

# Low VF series small Schottky barrier diodes

The best new products will join ROHM's "Super Low VF Series"

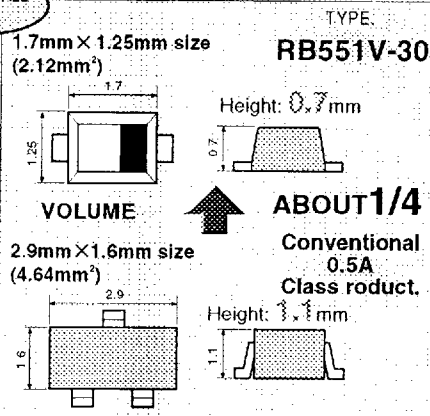
☆ Rohm is leading the industry by making the smallest 0.5A/30V diodes. These are most suitable for small and light applications.

■ PRODUCT

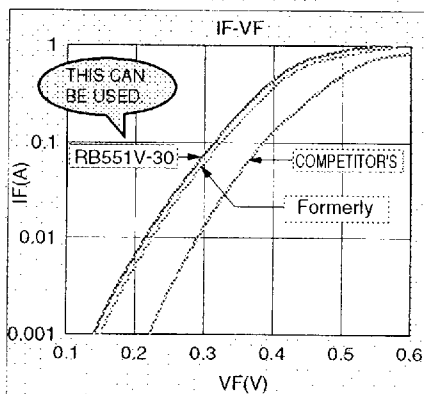
FEATURE

1. SUPER LOW VF 0.5A AND 0.39V
2. SMALL PACKAGE UMD2(SOD323)
3. IO=0.5A

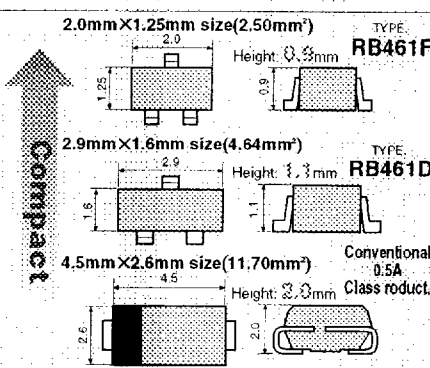
HOW SMALL IT IS?



TYPE, Typ. (Taping)	Package	Io/VRM	VF(at IF)
RB551V-30(TE-17)	UMD2 (SOD323)	0.5A/30V	0.42V typ (0.5A)

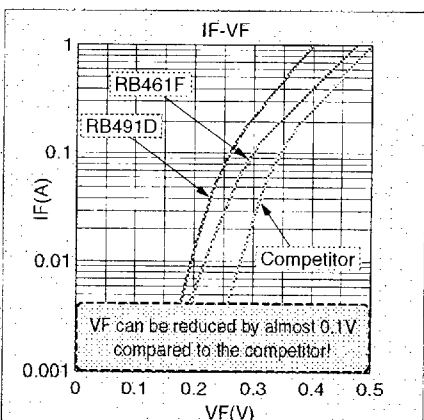


- ☆ Ultra Low VF-Reduction of batter consumption in portable products.
- ☆ Compact and light-SOT323: 0.7A/SC59: 1.0A
- ☆ High Power-0.7 to 1A in these small packages.

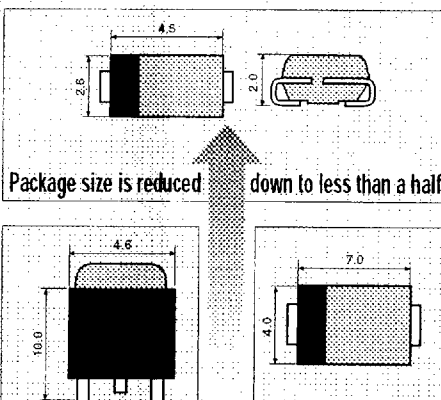


■ Application Example  
PC, PDA, Cellular, Phone, PHS

TYPE (Taping)	Package	Io/VRM	VF(at IF)
RB461F(T106)	UMD3 (SOT323)	0.7A/25V	0.43V typ (0.7A)
RB491D(T146)	SMD3 (SC59)	1.0A/25V	0.40V typ (1.0A)

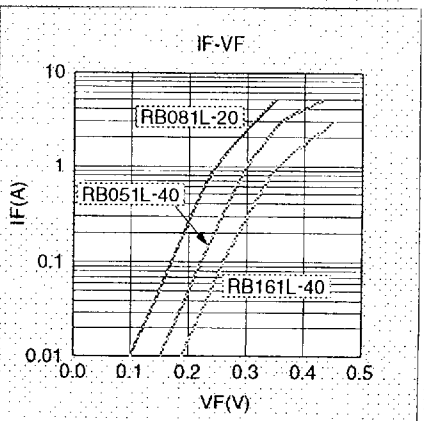


- ☆ ROHM developed a 1~5A Schottky barrier diode in an ultra small package. (Actual size)
- Ideal for miniturizing as well as saving energy



■ Application Example  
Portable PC, Battery, Charger, Small power, Supply

TYPE (Taping)	Package	Io/VRM	VF(at IF)
RB161L-40(TE26)	PMDS	1A/40V	0.35V typ(1A)
RB051L-40(TE25)	(SMA)	3A/40V	0.35V typ(3A)
RB081L-20(TE26)		5A/25V	0.35V typ(5A)



Schottky barrier diode (Silicon Epitaxial Planer)

Ultra Low VF

RB551V-30

APPLICATION

High speed switching

FEATURE

- Small mold type (UMD2)
- Low VF
- High reliability

Mass per piece

3mg/pcs

ABSOLUTE MAXIMUM RATING(Ta=25°C)

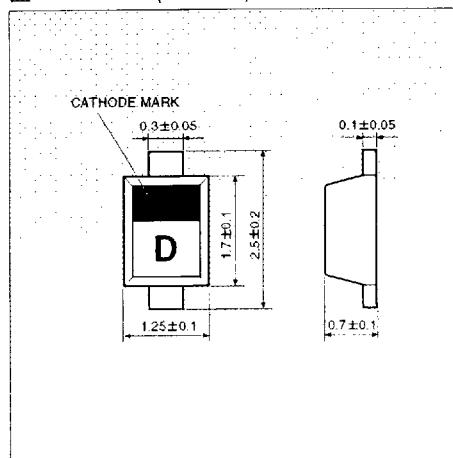
Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	VRM	30V
Reverse voltage(DC)	VR	20V
Forward current(DC)	Io	0.5A
Forward current surge peak(50Hz 1ms)	IFSM	2A
Junction temperature	Tj	125°C
Storage temperature	Tstg	-40~125°C

ELECTRICAL CHARACTERISTIC(Ta=25°C)

Characteristic	Symbol	Test condition	Standard
Forward voltage	VF1	IF=100mA	0.36V Max.
	VF2	IF=500mA	0.47V Max.
Reverse current	IR	VR=20V	100µA Max.

\*Please pay attention to static electricity when handling

DIMENSION(UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

Ultra Low VF

RB461F

APPLICATION

General rectification

FEATURE

- Small mold type (UMD3)
- High reliability

Mass per piece

6mg/pcs

ABSOLUTE MAXIMUM RATING(Ta=25°C)

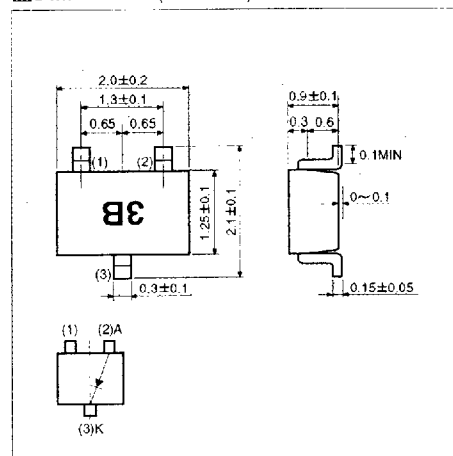
Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	VRM	25V
Reverse voltage(DC)	VR	20V
Forward current(DC)	IF	0.7A
Forward current surge peak(50Hz 1ms)	IFSM	3A
Junction temperature	Tj	125°C
Storage temperature	Tstg	-40~125°C

ELECTRICAL CHARACTERISTIC(Ta=25°C)

Characteristic	Symbol	Test condition	Standard
Forward voltage	VF	IF=700mA	0.49V Max.
Reverse current	IR	VR=20V	200µA Max.

\*Please pay attention to static electricity when handling

DIMENSION(UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

Ultra Low VF

RB491D

APPLICATION

General rectification

FEATURE

- Small mold type (SMD3)
- High reliability

Mass per piece

13mg/pcs

ABSOLUTE MAXIMUM RATING(Ta=25°C)

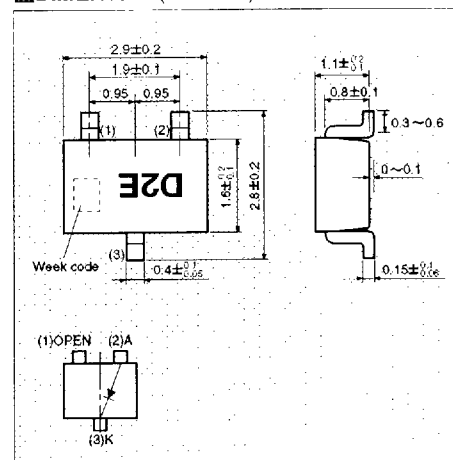
Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	VRM	25V
Reverse voltage(DC)	VR	20V
Forward current(DC)	IF	1.0A
Forward current surge peak(50Hz 1ms)	IFSM	3A
Junction temperature	Tj	125°C
Storage temperature	Tstg	-40~125°C

ELECTRICAL CHARACTERISTIC(Ta=25°C)

Characteristic	Symbol	Test condition	Standard
Forward voltage	VF	IF=1.0A	0.45V Max.
Reverse current	IR	VR=20V	200µA Max.

\*Please pay attention to static electricity when handling.

DIMENSION(UNIT:mm)



## Schottky barrier diode (Silicon Epitaxial Planer) RB161L-40

### APPLICATION

General rectification

### FEATURE

- Small power mold type (PMDS)
- High reliability
- Low VF

### Mass per piece

69mg/pcs



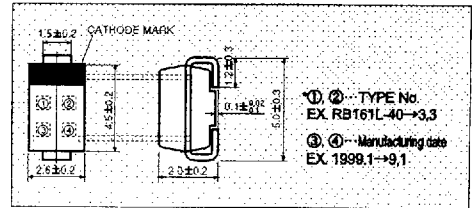
### ABSOLUTE MAXIMUM RATING(Ta=25°C)

Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	VRM	40V
Reverse voltage(DC)	VR	20V
Forward current(DC)	Io	1A
Forward current surge peak(60Hz, 1-φ)	IFSM	70A
Junction temperature	Tj	125°C
Operation temperature	Topr	Refer to NOTE 1
Storage temperature	Tstg	-40~125°C

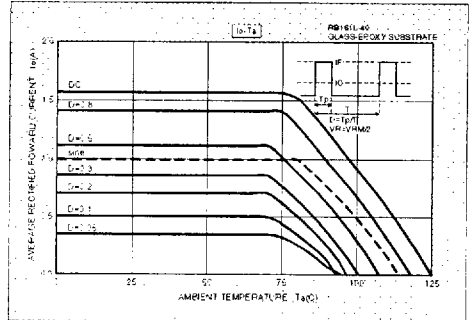
### ELECTRICAL CHARACTERISTIC(Ta=25°C)

Characteristic	Symbol	Test condition	Standard
Forward voltage	VF	IF=1A	0.40V Max.
Reverse current	IR	VR=20V	1.0mA Max.

### DIMENSION(UNIT:mm)



### NOTE.1 Derating Curve Io-Ta



## Schottky barrier diode (Silicon Epitaxial Planer) RB051L-40

### APPLICATION

General rectification

### FEATURE

- Small power mold type (PMDS)
- High reliability
- Low VF

### Mass per piece

69mg/pcs



### ABSOLUTE MAXIMUM RATING(Ta=25°C)

Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	VRM	40V
Reverse voltage(DC)	VR	20V
Average rectified forward current**	Io	3.0A
Forward current(DC)	IF	3.0A
Forward current surge peak(60Hz, 1-φ)	IFSM	70A
Operation temperature	Topr	Refer to NOTE 1,2
Storage temperature	Tstg	-40~125°C

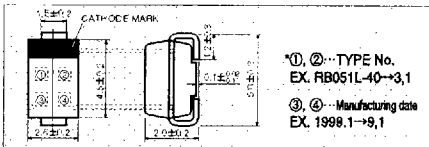
\*\* 60Hz sine wave. Almina substrate at the time of assembly. Tj max=90°C Max. 60Hz 1-φ.

### ELECTRICAL CHARACTERISTIC(Ta=25°C)

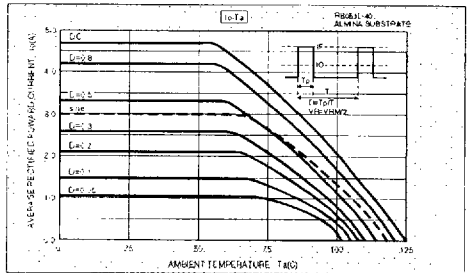
Characteristic	Symbol	Test condition	Standard
Forward voltage	VF1	IF=1.0A	0.35V Max.
	VF2	IF=3.0A	0.45V Max.
Reverse current	IR1	VR=20V	1.0mA Max.
	IR2	VR=15V	150µA Max.

\*Please pay attention to static electricity when handling.

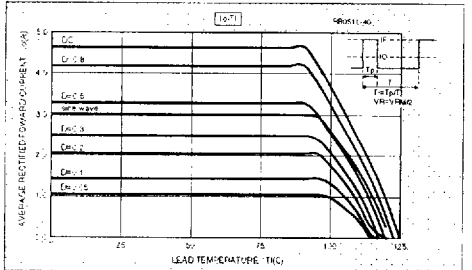
### DIMENSION(UNIT:mm)



### NOTE.1 Derating Curve Io-Ta



### NOTE.2 Derating Curve Io-Ta



## Schottky barrier diode (Silicon Epitaxial Planer) RB081L-20

### APPLICATION

General rectification

### FEATURE

- Small power mold type (PMDS)
- High reliability
- Low VF

### Mass per piece

69mg/pcs



### ABSOLUTE MAXIMUM RATING(Ta=25°C)

Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	VRM	25V
Reverse voltage(DC)	VR	20V
Average rectified forward current**	Io	5.0A
Forward current surge peak(60Hz, 1-φ)	IFSM	70A
Junction temperature	Tj	125°C
Operation temperature	Topr	Refer to NOTE 1,2
Storage temperature	Tstg	-40~125°C

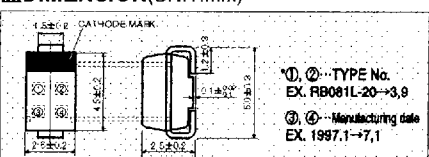
\*\* 60Hz sine wave. Almina substrate at the time of assembly. Tj max=90°C

### ELECTRICAL CHARACTERISTIC(Ta=25°C)

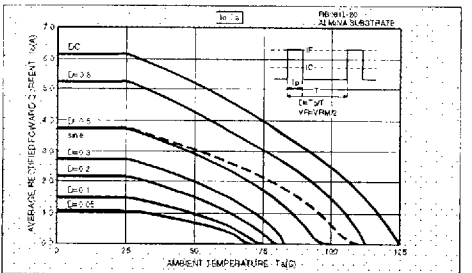
Characteristic	Symbol	Test condition	Standard
Forward voltage	VF	IF=5A	0.45V Max.
Reverse current	IR	VR=20V	0.7mA Max.

\*Please pay attention to static electricity when handling.

### DIMENSION(UNIT:mm)



### NOTE.1 Derating Curve Io-Ta



### NOTE.2 Derating Curve Io-Ta

