

## SM120A thru SM1100A

### Schottky Barrier Rectifiers Reverse Voltage 20 to 100V Forward Current 1.0A

#### FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Low power loss, high efficiency
- \* For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- \* Guardring for over voltage protection
- \* High temperature soldering guaranteed: 260°C/10 seconds at terminals

#### Mechanical Data

**Case:** JEDEC DO-214AC, molded plastic over sky die

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

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.0026 oz., 0.075 g

**Handling precaution:** None

#### 1. Electrical Characteristic

**Maximum & Thermal Characteristics Ratings** at 25°C ambient temperature unless otherwise specified.

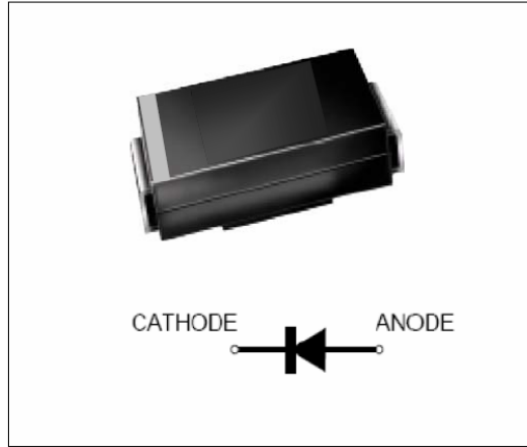
Parameter Symbol	symbol	SM120A	SM130A	SM140A	SM150A	SM160A	SM180A	SM1100A	Unit
device marking code		S12	S13	S14	S15	S16	S18	S110	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	V
Maximum average forward rectified current 0.375" (9.5mm) lead length (See fig. 1)	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Typical thermal resistance (Note 1)	$R_{\theta JA}$	50							°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-40 to +150							°C

**Electrical Characteristics Ratings** at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SM120A	SM130A	SM140A	SM150A	SM160A	SM180A	SM1100A	Unit
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.50			0.70		0.85		V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	$I_R$	0.5							mA
Typical junction capacitance at 4.0V, 1MHz	$C_J$	110							PF

#### NOTES:

1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



We declare that the material of product compliance with ROHS requirements

## SM120A thru SM1100A

### 2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

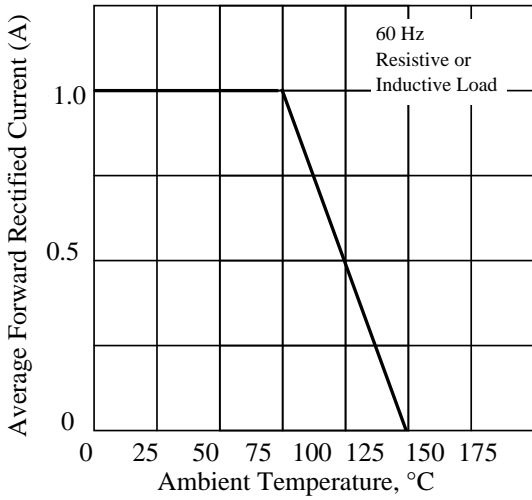


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

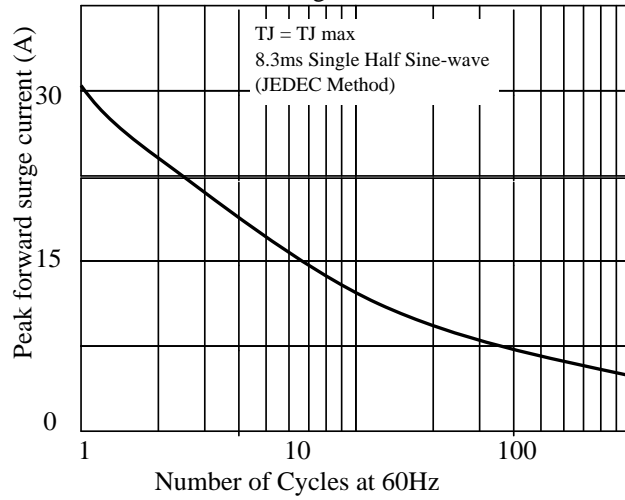


Fig 3. - Typical Instantaneous Forward Characteristics

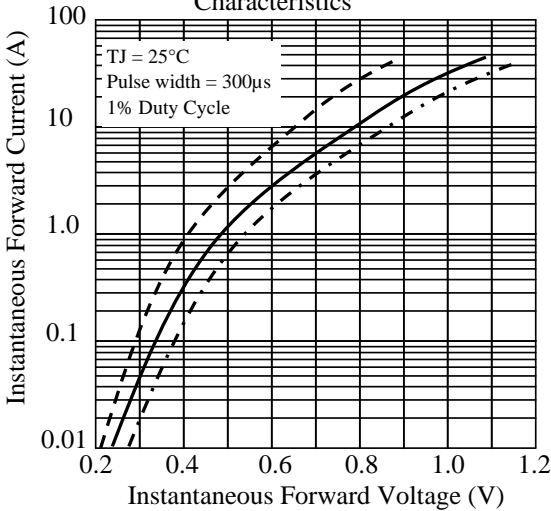


Fig 4. - Typical Reverse Characteristics

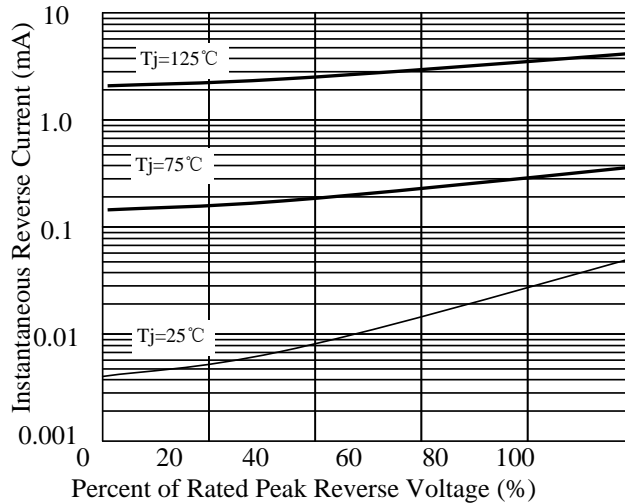


Fig 5. - typical transient thermal impedance

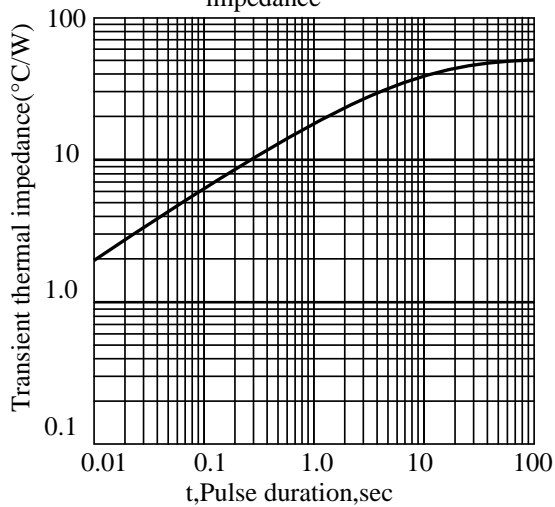
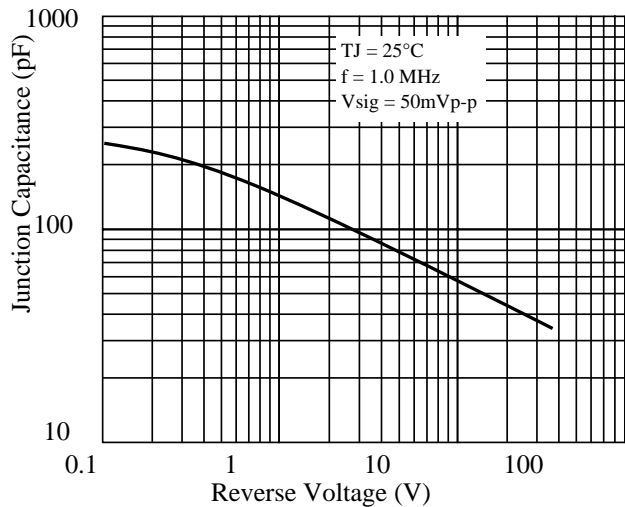
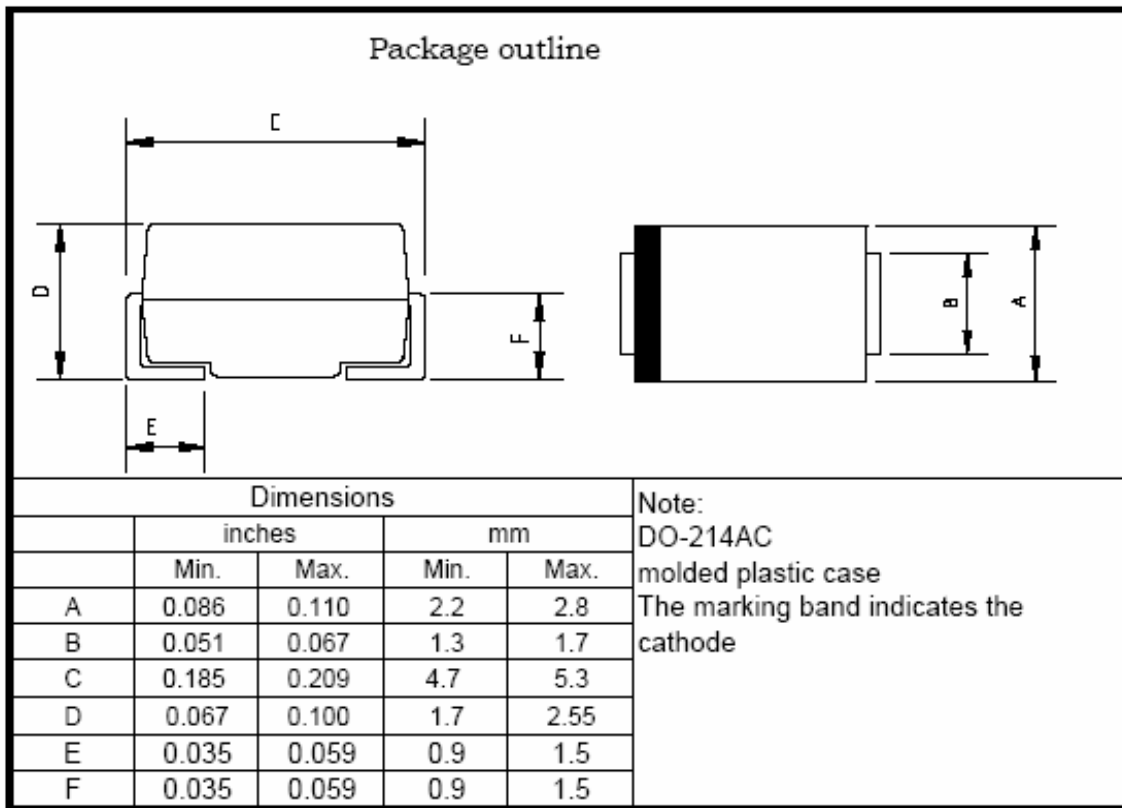


Fig 6. - Typical Junction Capacitance



### SM120A thru SM1100A

#### 3. dimension:



**SM120A thru SM1100A****4. Update Record**

版次	更新记录	更新作者	更新日期
1	第一版	周杰	2010-4-28
2	修改结温为150顿	周杰	2010-9-23