

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

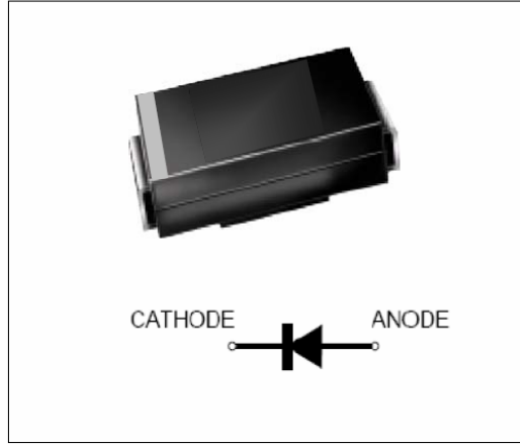
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0023 oz., 0.065 g

Handling precaution: None



We declare that the material of product compliance with ROHS requirements

1. Electrical Characteristic

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

Parameter Symbol	symbol	SM120A	SM130A	SM140A	SM145A	SM150A	SM160A	SM180A	SM1100A	Unit
device marking code		S12	S13	S14	S145	S15	S16	S18	S110	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	45	50	60	80	100	V
Maximum RMS voltage	V_{RMS}	14	21	28	32	35	42	56	70	V
Maximum DC blocking voltage	V_{DC}	20	30	40	45	50	60	80	100	V
Maximum average forward rectified current (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)	$R_{\theta JA}$	150								°C/W
Operating junction and storage temperature range	TJ, TSTG	-40 to +150								°C

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

Parameter Symbol	symbol	SM120A	SM130A	SM140A	SM145A	SM150A	SM160A	SM180A	SM1100A	Unit
Maximum instantaneous forward voltage at 1.0A	V_F	0.55				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	0.2 10.0					0.1 5.0			mA
Typical junction capacitance at 4.0V, 1MHz	C_J	60								PF

NOTES:

1. 8.0mm² (.013mm thick) land areas

SM120A thru SM1100A

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

Fig. 1 - Forward Current Derating Curve

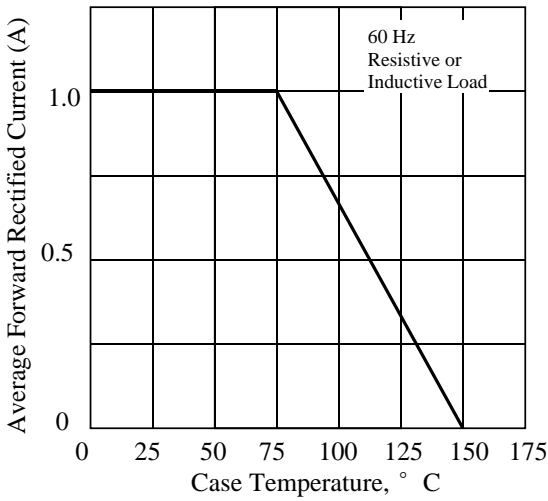


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

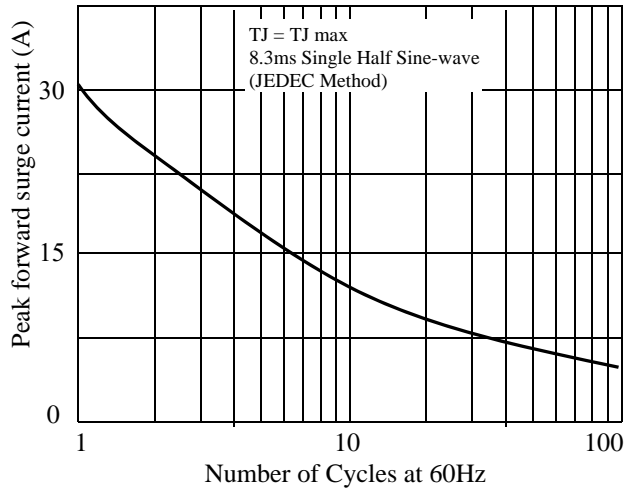


Fig 3. - Typical Instantaneous Forward Characteristics

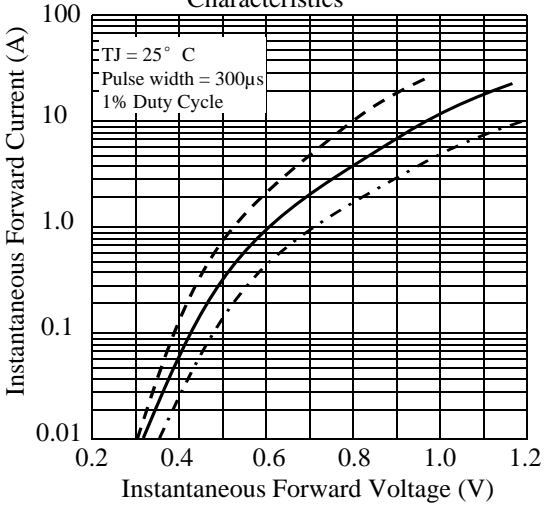


Fig 4. - Typical Reverse Characteristics

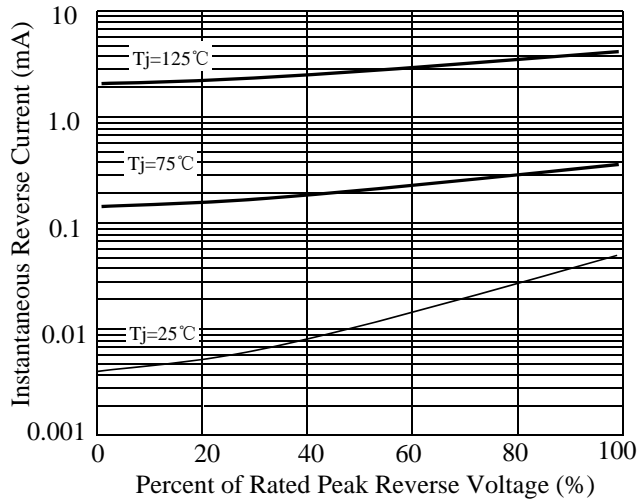


Fig 5. - typical transient thermal impedance

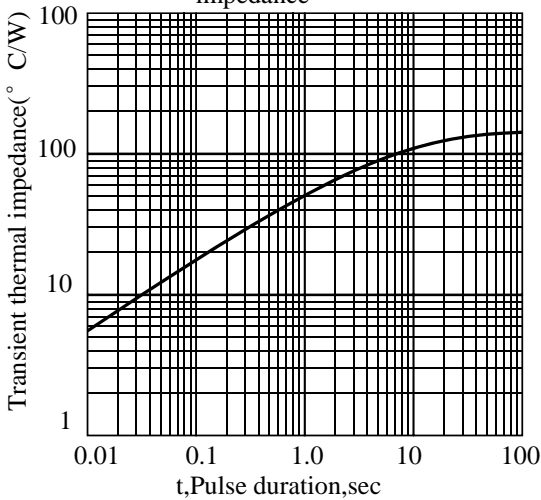
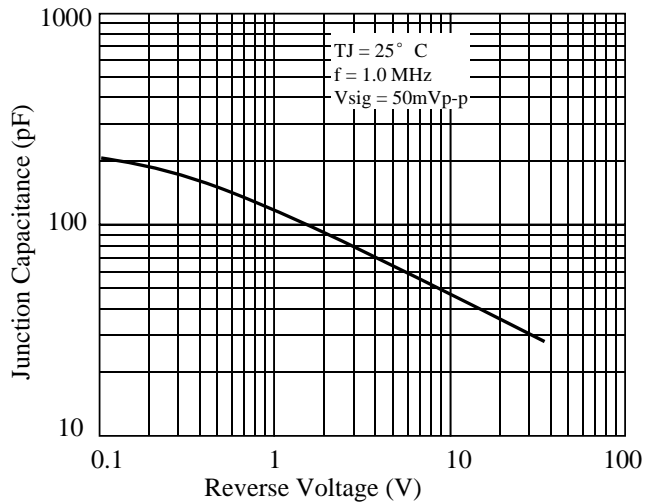
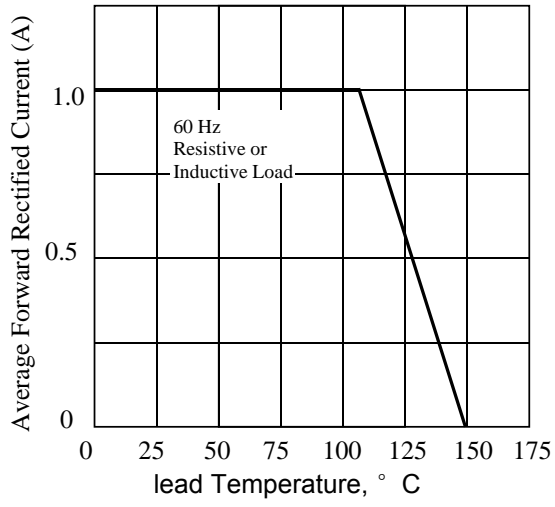


Fig 6. - Typical Junction Capacitance



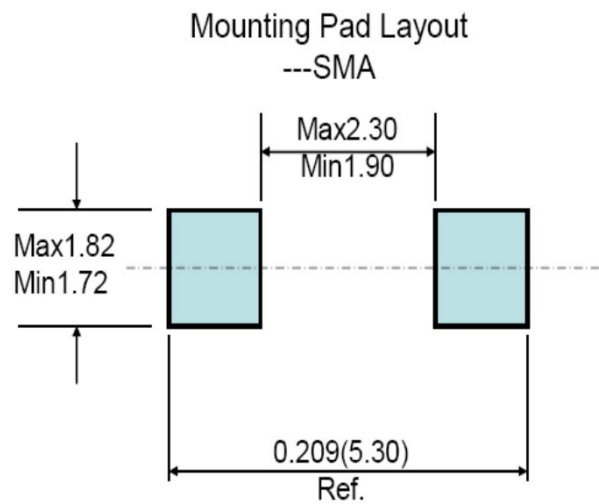
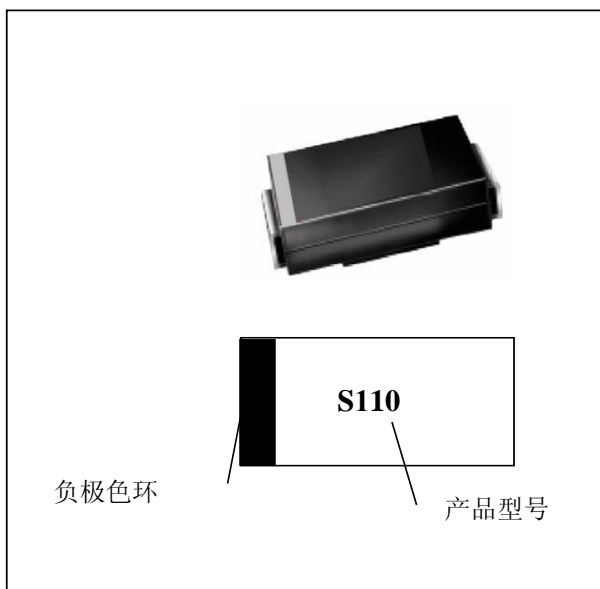
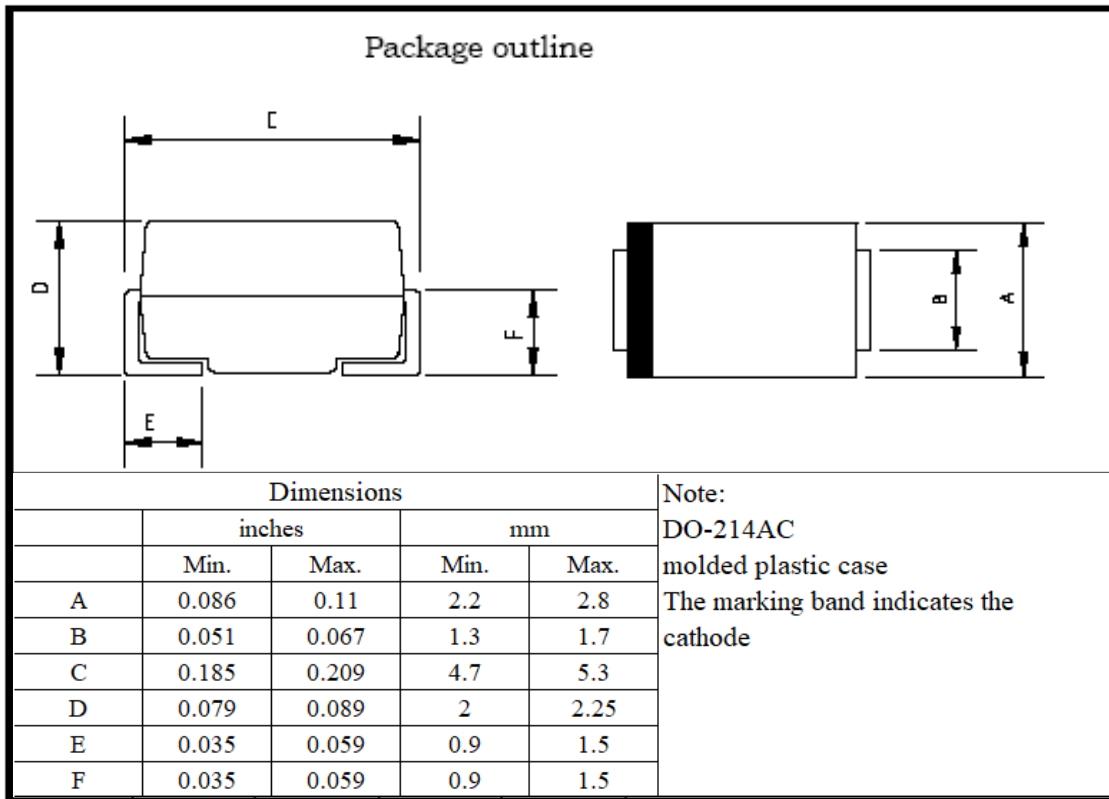
SM120A thru SM1100A

Fig. 7 - Forward Current Derating Curve



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度	周杰	2010-9-23
3	增加包装规范	周杰	2011-7-18
4	增加SM145A; 增加焊盘尺寸	周杰	2012-9-12
5	增加正向电流与TL的降额曲线	周杰	2013-2-28
E	VF 0.5V变更到0.55V	周杰	2021-10-11
F	IR根据不同档位标注	谭志伟	2024-1-2