

AME03EA03

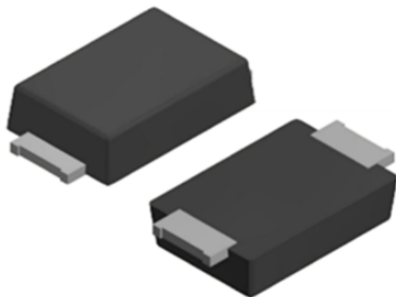
Schottky Barrier Diodes
30V, 3A

Feature

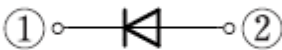
- Trench SBD
- Low V_F
- High Recovery Speed
- RoHS:Yes
- Based on AEC-Q101

OUTLINE

Package (House Name): SOD-128



Equivalent circuit



Absolute Maximum Ratings

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	Tstg		-55 to 150	°C
Junction temperature	Tj		-55 to 150	°C
Repetitive peak reverse voltage	V_{RRM}		30	V
Average forward current	$I_F(AV)$	Tl=118°C	3	A
Average forward current	$I_F(AV)$		4.71	A
Surge forward current	I_{FSM}	50Hz half sine wave, 1 cycle, Non-repetitive	60	A

※ :See the original Specifications

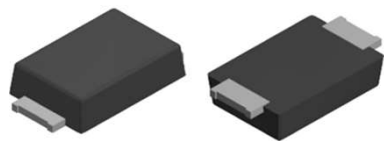
Electrical Characteristics

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	$I_F=3A, T_j=25^{\circ}C$	-	-	0.45	V
Reverse current	I_R	$V_R=V_{RRM}, T_j=25^{\circ}C$	-	-	0.3	mA
Thermal resistance	$R_{th(j-l)}$	Junction to lead	-	-	15	°C/W
Thermal resistance	$R_{th(j-a)}$	Junction to ambient (P.C.Board mounted)	-	-	80	°C/W

※ :See the original Specifications

Schottky Barrier Diode

AME03EA03



SOD-128

■ 特徴 / Features

- ・ トレンチSBD
Trench Schottky Barrier Diode
- ・ 低VF
Low forward voltage drop
- ・ 高周波動作
High frequency operation
- ・ RoHS指令対応
RoHS compliant
- ・ AEC-Q101 qualified

■ アプリケーション / Applications

- ・ 車載用途向け
for Automotive
- ・ 二次側整流
Secondary side rectification
- ・ DC/DCコンバータ
DC/DC converters
- ・ 逆流防止
Back-flow prevention

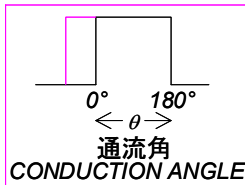
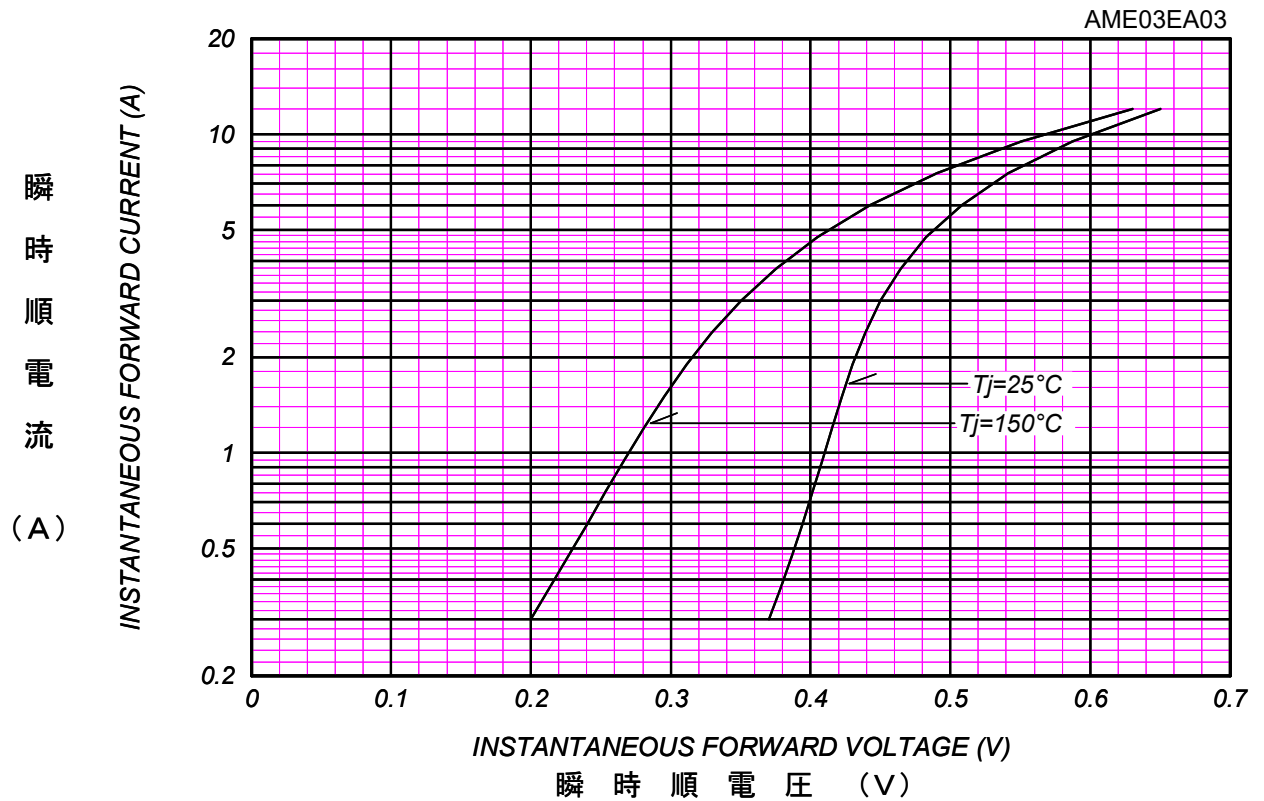
■ 最大定格 / Maximum ratings

Parameter	Symbol	Conditions	Limits	Unit
くり返しピーク逆電圧 Repetitive Peak Reverse Voltage	V_{RRM}		30	V
平均整流電流 Average Rectified Output Current	I_O	$T_L = 118^\circ\text{C}$	3	A
実効順電流 R.M.S Forward Current	$I_{F(RMS)}$		4.71	A
サージ順電流 Surge Forward Current	I_{FSM}	50Hz 正弦半波、1サイクル、非くり返し Half Sine Wave, 1cycle, Non-repetitive	60	A
動作接合温度範囲 Operating Junction Temperature Range	T_{jw}		$-55 \sim +150$	$^\circ\text{C}$
保存温度範囲 Storage Temperature Range	T_{stg}		$-55 \sim +150$	$^\circ\text{C}$

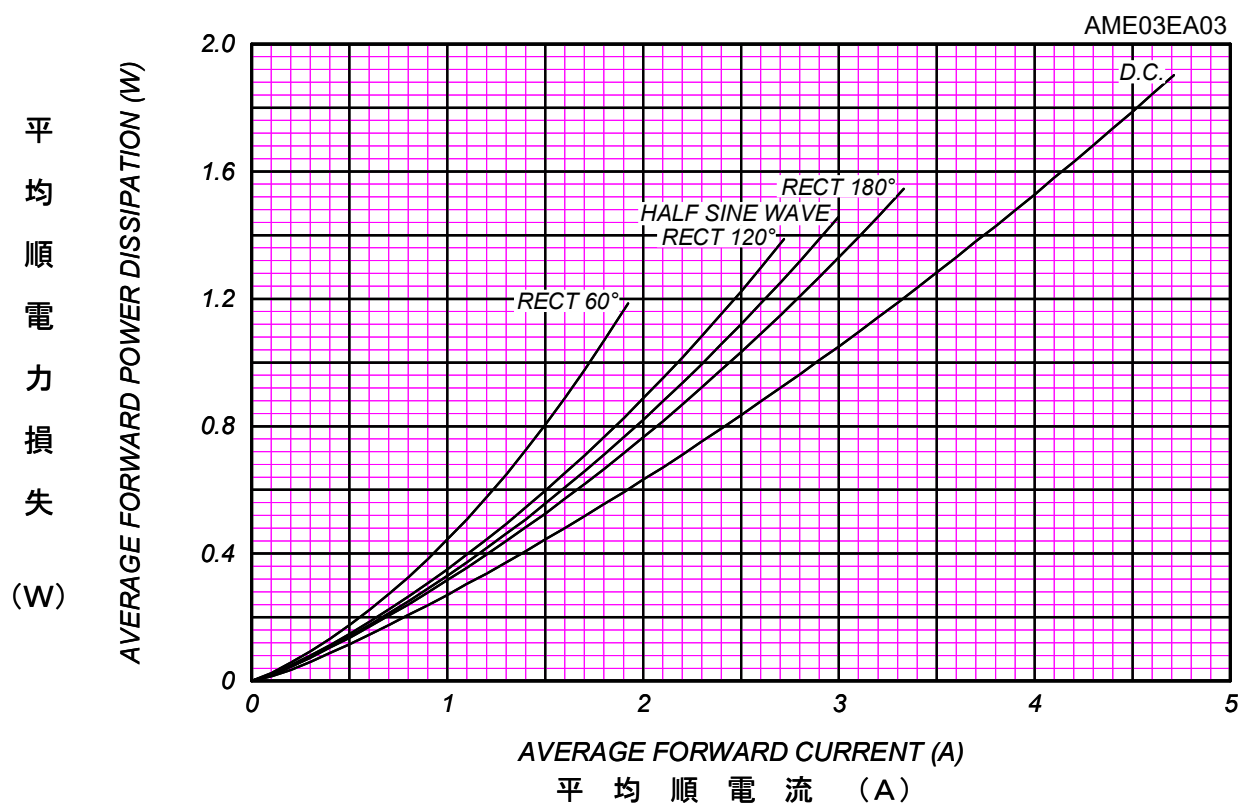
■ 電気的特性 / Electrical characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
ピーク逆電流 Peak Reverse Current	I_{RM}	$V_{RM} = V_{RRM}$ $T_j = 25^\circ\text{C}$	-	-	0.30	mA
ピーク順電圧 Peak Forward Voltage	V_{FM}	$I_{FM} = 3\text{A}$ $T_j = 25^\circ\text{C}$	-	-	0.45	V
熱抵抗 Thermal Resistance	$R_{th(j-l)}$	接合部ーリード間 Junction to Lead	-	-	15.0	$^\circ\text{C/W}$
	$R_{th(j-a)}$	接合部ー周囲間 (プリント基板実装) Junction to Ambient (P.C.Board mounted)	-	-	80.0	$^\circ\text{C/W}$

順電壓特性
FORWARD CURRENT VS. VOLTAGE



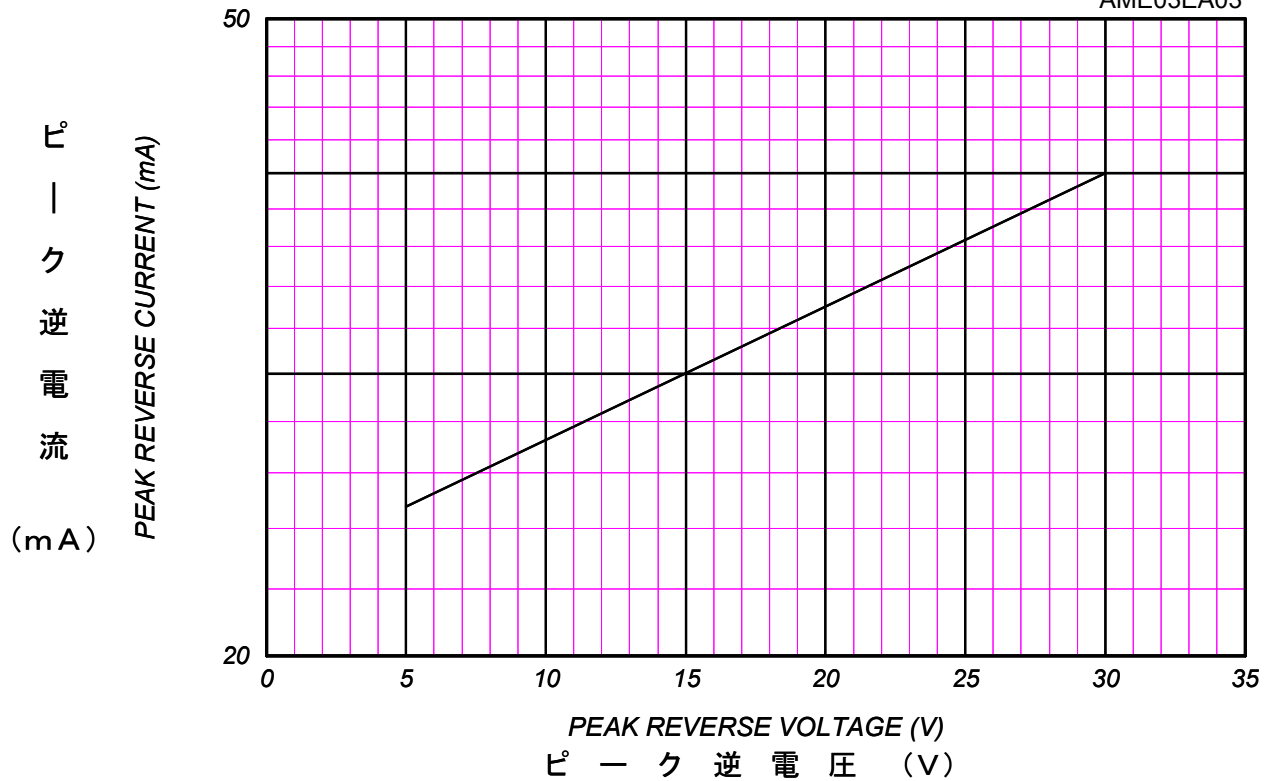
平均順電力損失特性
AVERAGE FORWARD POWER DISSIPATION



ピーク逆電流 — ピーク逆電圧特性
PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

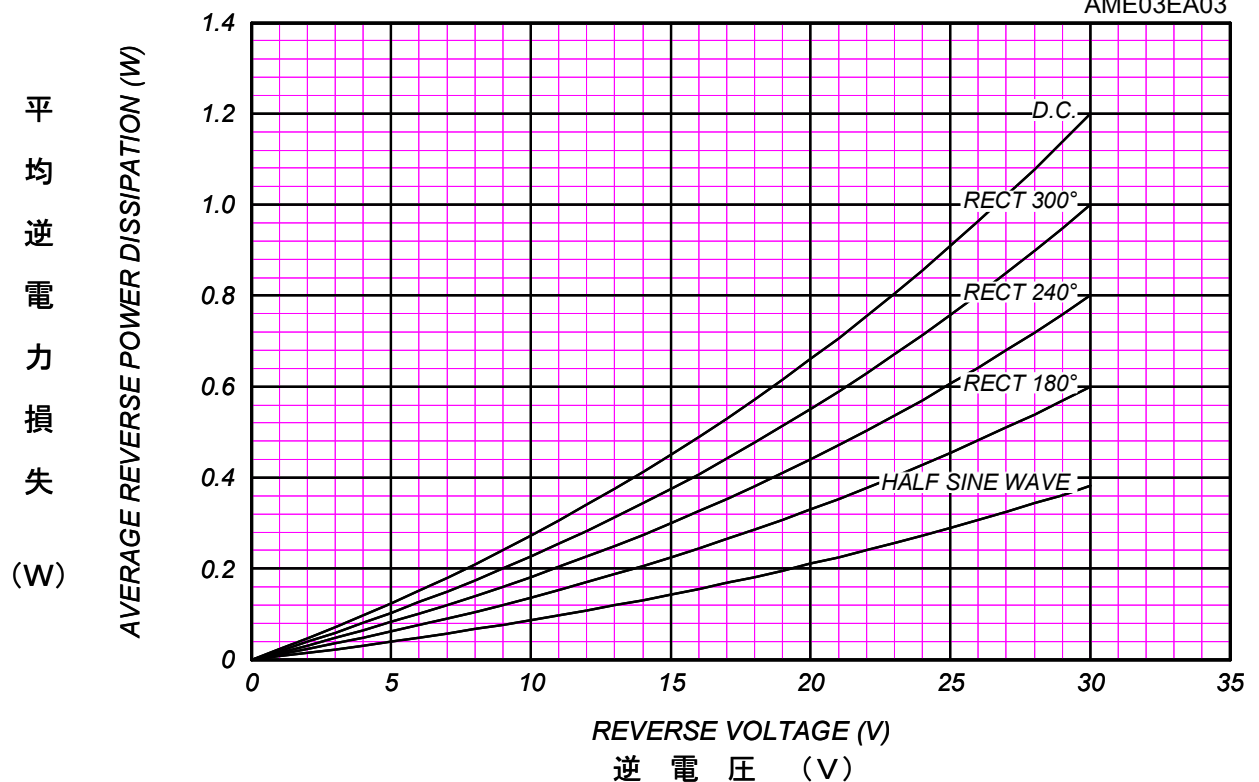
$T_j = 150^\circ\text{C}$

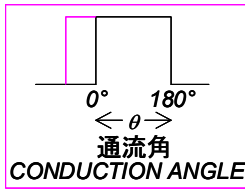
AME03EA03



平均逆電力損失
AVERAGE REVERSE POWER DISSIPATION

AME03EA03



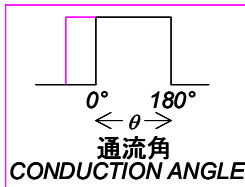
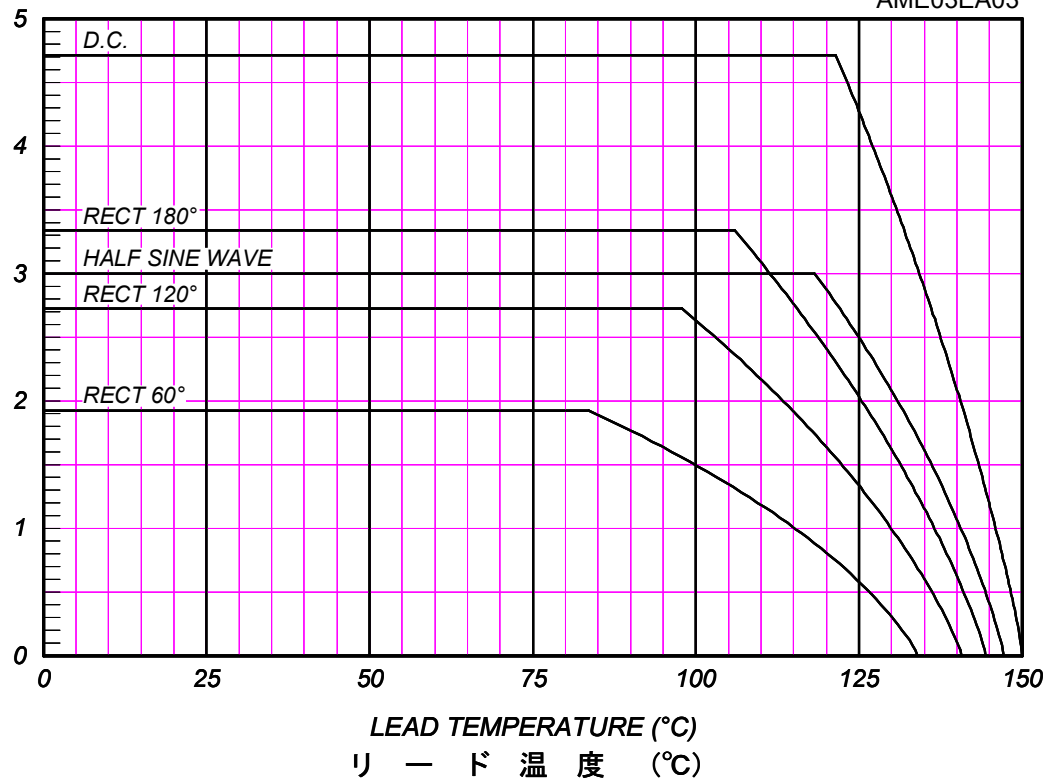


平均順電流－リード温度定格
AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

$V_{RM}=15V$

AME03EA03

平均順電流
(A)
AVERAGE FORWARD CURRENT (A)

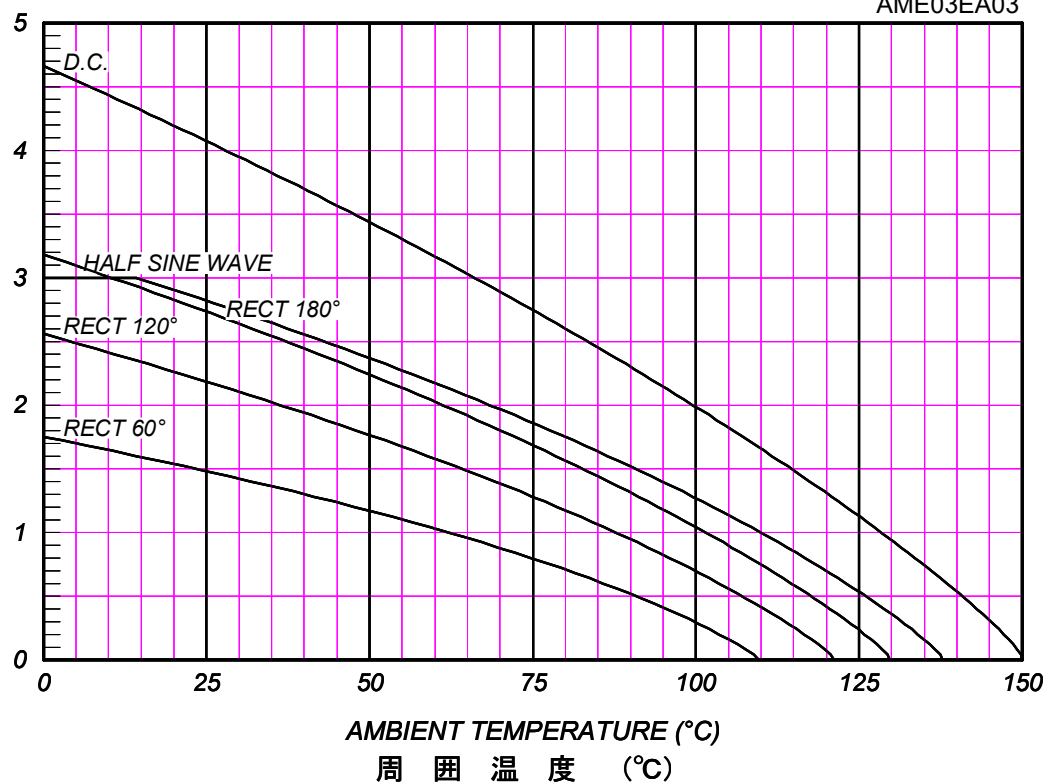


平均順電流－周囲温度定格
AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

Glass-Epoxy Substrate Mounted (Soldering Land=2×2mm, Both side), $V_{RM}=15V$

AME03EA03

平均順電流
(A)
AVERAGE FORWARD CURRENT (A)



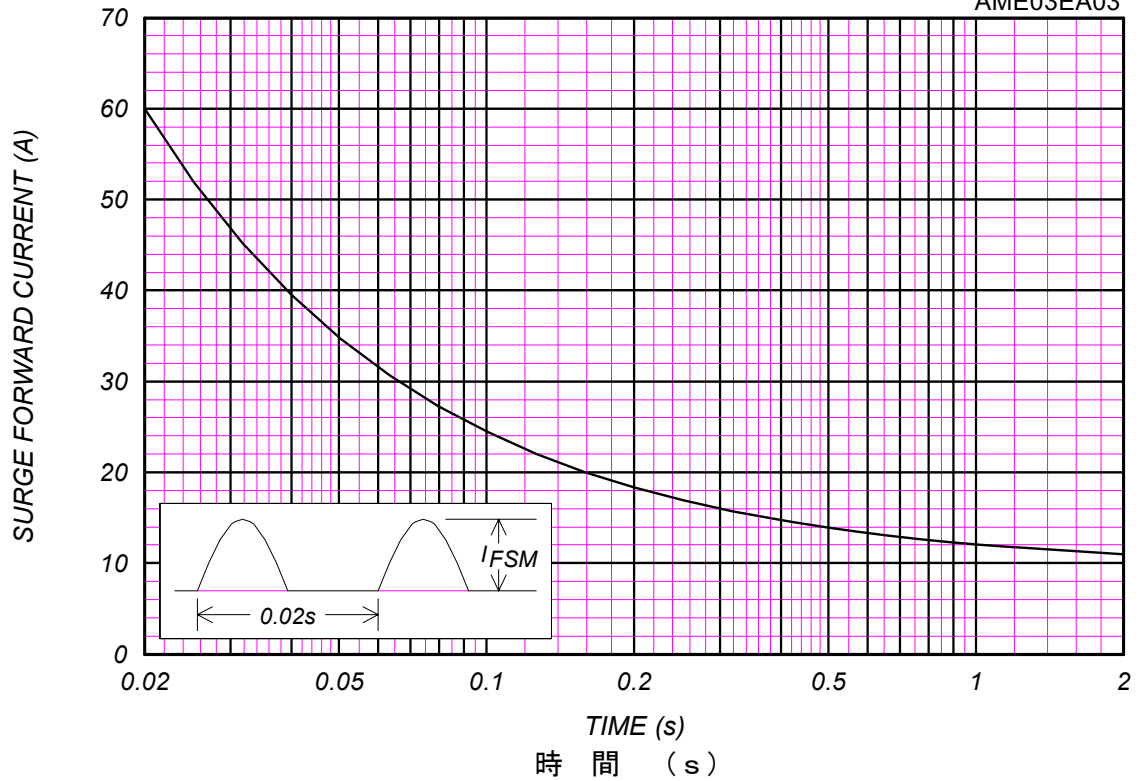
サージ順電流定格 SURGE CURRENT RATINGS

f=50Hz, Half Sine Wave, Non-Repetitive, No Load

AME03EA03

サ
ー
ジ
順
電
流

(A)



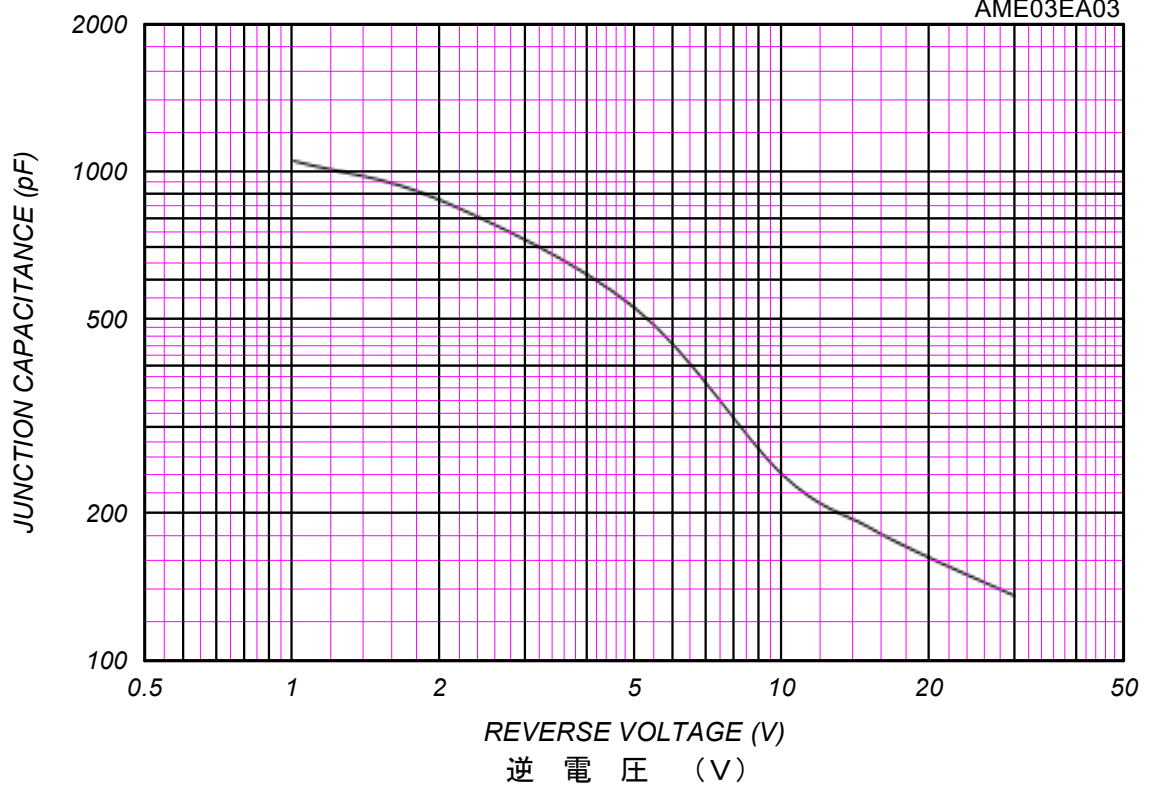
接合容量特性 JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

T_j=25°C, V_m=20mV_{RMS}, f=100kHz, Typical Value

AME03EA03

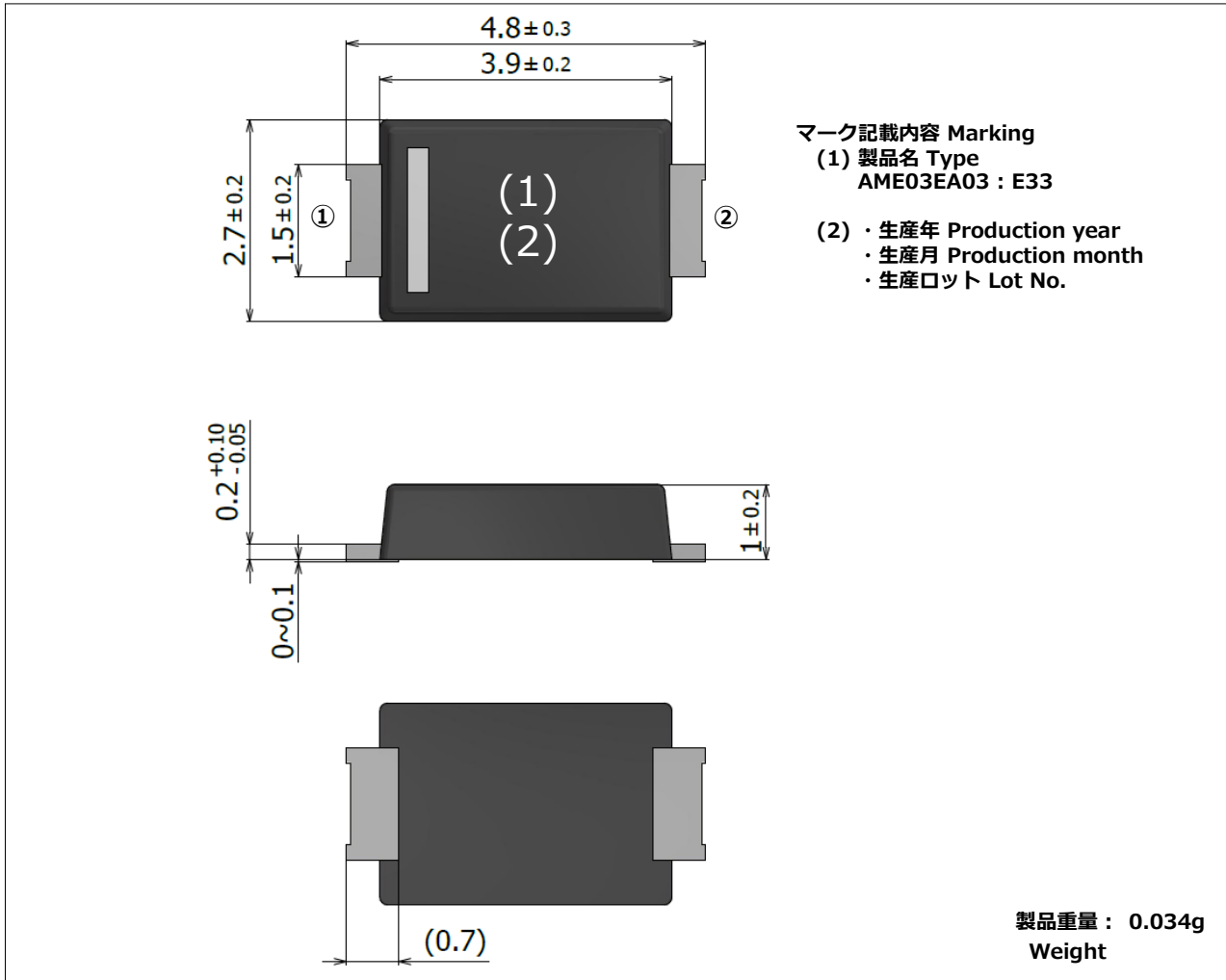
接
合
容
量

(pF)

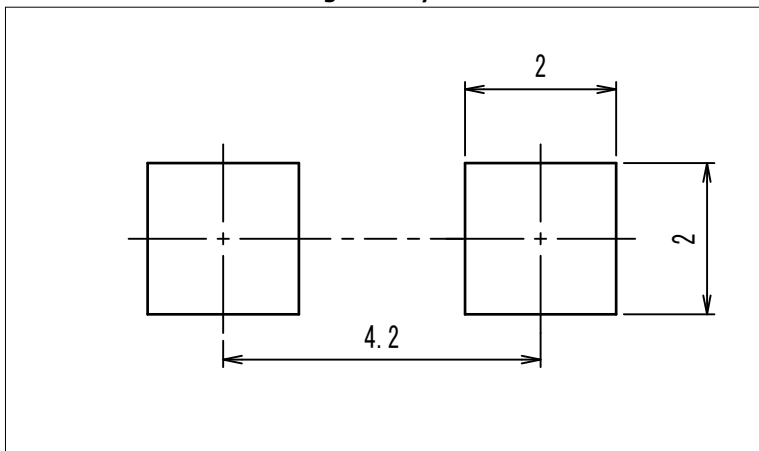


SMA_FL

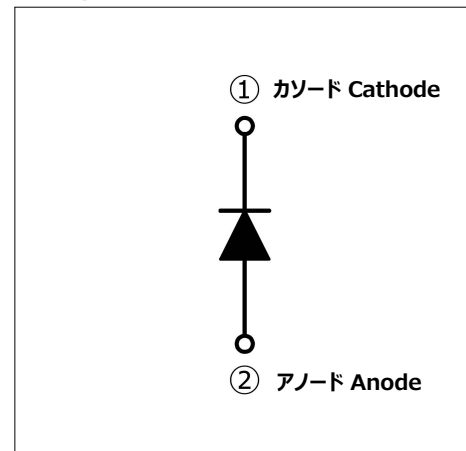
■ 外形図 Package Outline



■ 推奨ランドサイズ Mounting Pad Layout



■ 内部回路図 Inner Circuit



1. If you wish to use any such product, please be sure to refer to the specifications issued by Shindengen.
2. All products described or contained herein are designed with a quality level intended for use in standard applications requiring an ordinary level of reliability. If these products are to be used in equipment or devices for special or specific applications requiring an extremely high grade of quality or reliability in which failures or malfunctions of products may directly affect human life or health, a local Shindengen office must be contacted in advance to confirm that the intended use of the product is appropriate. Shindengen products are grouped into the following three applications according to the quality grade.
 - 【Standard applications】
Computers, office automation and other office equipment, communication terminals, test and measurement equipment, audio/visual equipment, amusement equipment, consumer electronics, machine tools, personal electronic equipment, industrial equipment, etc.
 - 【Special applications】
Transportation equipment (vehicles, ships, etc.), trunk-line communication equipment, traffic signal control systems, anti-disaster/crime systems, safety equipment, medical equipment, etc.
 - 【Specific applications】
Nuclear reactor control systems, aircraft, aerospace equipment, submarine repeaters, life support equipment and systems, etc.
3. Although Shindengen continuously endeavors to enhance the quality and reliability of its products, customers are advised to consider and take safety measures in their design, such as redundancy, fire containment and anti-failure, so that personal injury, fires, or societal damages can be prevented.
4. Please note that all information described or contained herein is subject to change without notice due to product upgrades and other reasons. When buying Shindengen products, please contact the Company's offices or distributors to obtain the latest information.
5. Shindengen shall not bear any responsibility with regards to damages or infringement of any third-party patent rights and other intellectual property rights incurred due to the use of information on this website.
6. The information and materials on this website neither warrant the use of Shindengen's or any third party's patent rights and other intellectual property rights, nor grant license to such rights.
7. In the event that any product described or contained herein falls under the category of strategic products controlled under the Foreign Exchange and Foreign Trade Control Law of Japan, exporting of such products shall require an export license from the Japanese government in accordance with the above law.
8. No reprinting or reproduction of the materials on this website, either in whole or in part, is permitted without proper authorization from Shindengen.