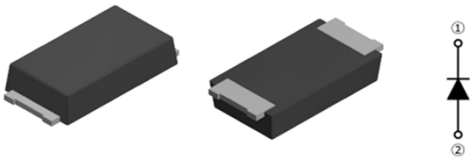
ShinDengen
New power. Your power.

Schottky Barrier Diode

MC05EA06



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■ 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

■ アプリケーション / Applications

- 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}		60	V
平均整流電流 Average Rectified Output Current	I_O	T_L= 96℃	5	A
実効順電流 R.M.S Forward Current	$I_{F(RMS)}$		7.85	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	100	A
動作接合温度範囲 Operating Junction Temperature Range	T_{jw}		-55 ～ +150	℃
保存温度範囲 Storage Temperature Range	T_{stg}		-55 ～ +150	℃

■ 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} Tj=25℃	-	-	0.3	mA
ピーク順電圧 Peak Forward Voltage	V_{FM}	I_{FM}= 5A Tj=25℃	-	-	0.60	V
熱抵抗 Thermal Resistance	$R_{th\ (j-l)}$	接合部ーリード間 Junction to Lead	-	-	8	℃/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)	-	-	70	℃/W

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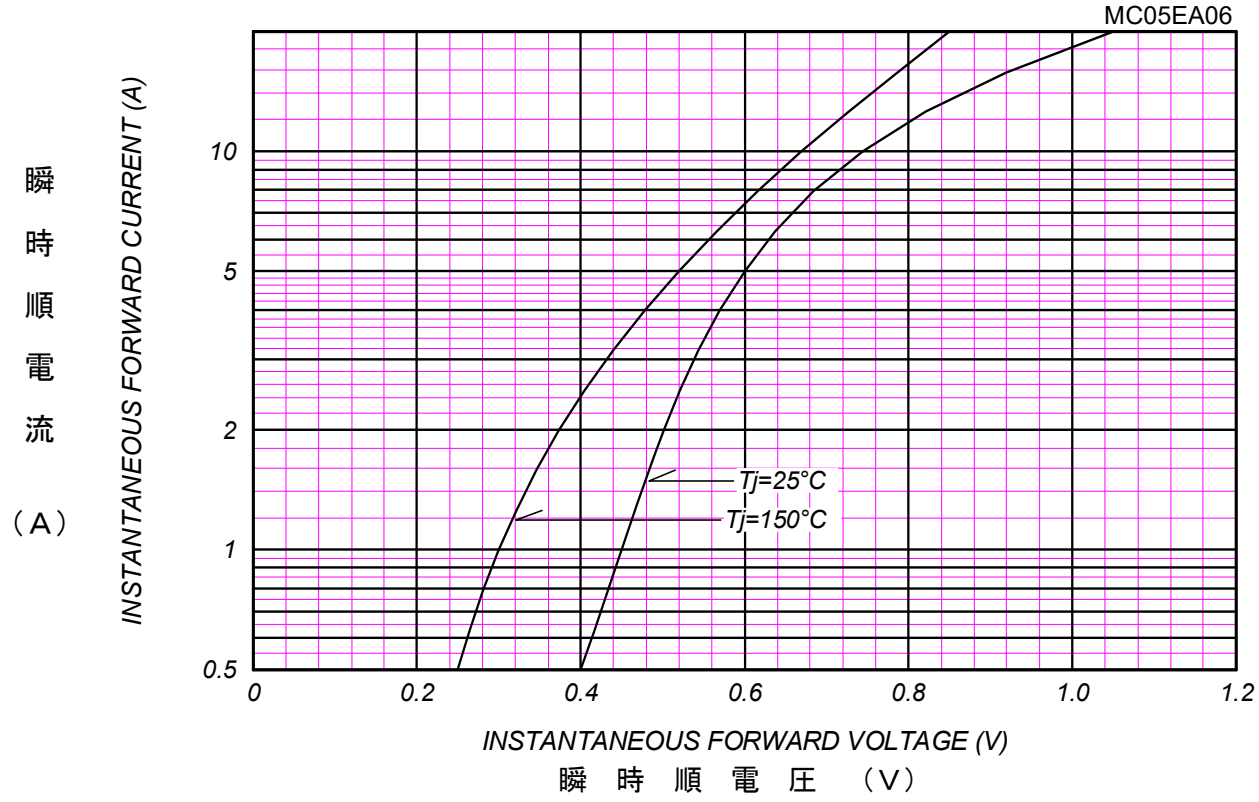
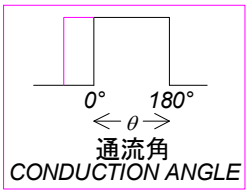
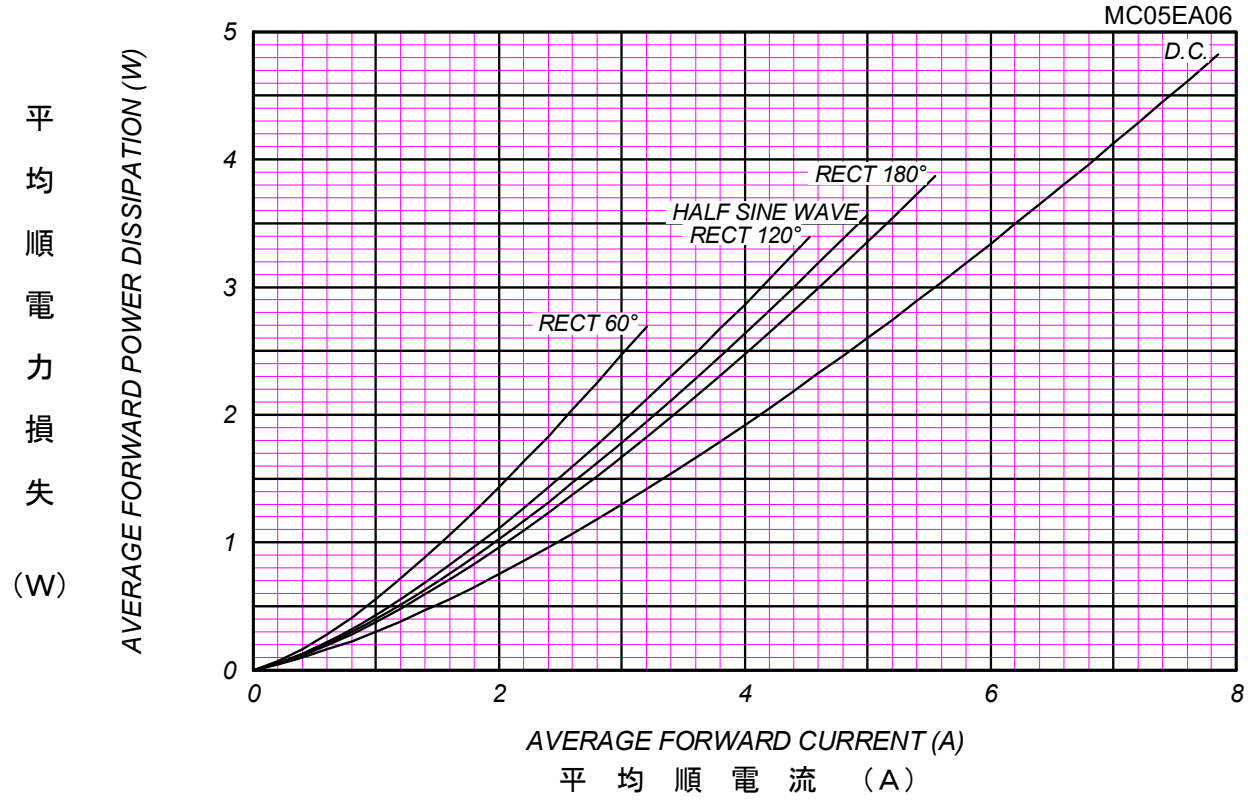
順 電 圧 特 性
FORWARD CURRENT VS. VOLTAGE





平 均 順 電 力 損 失 特 性
AVERAGE FORWARD POWER DISSIPATION



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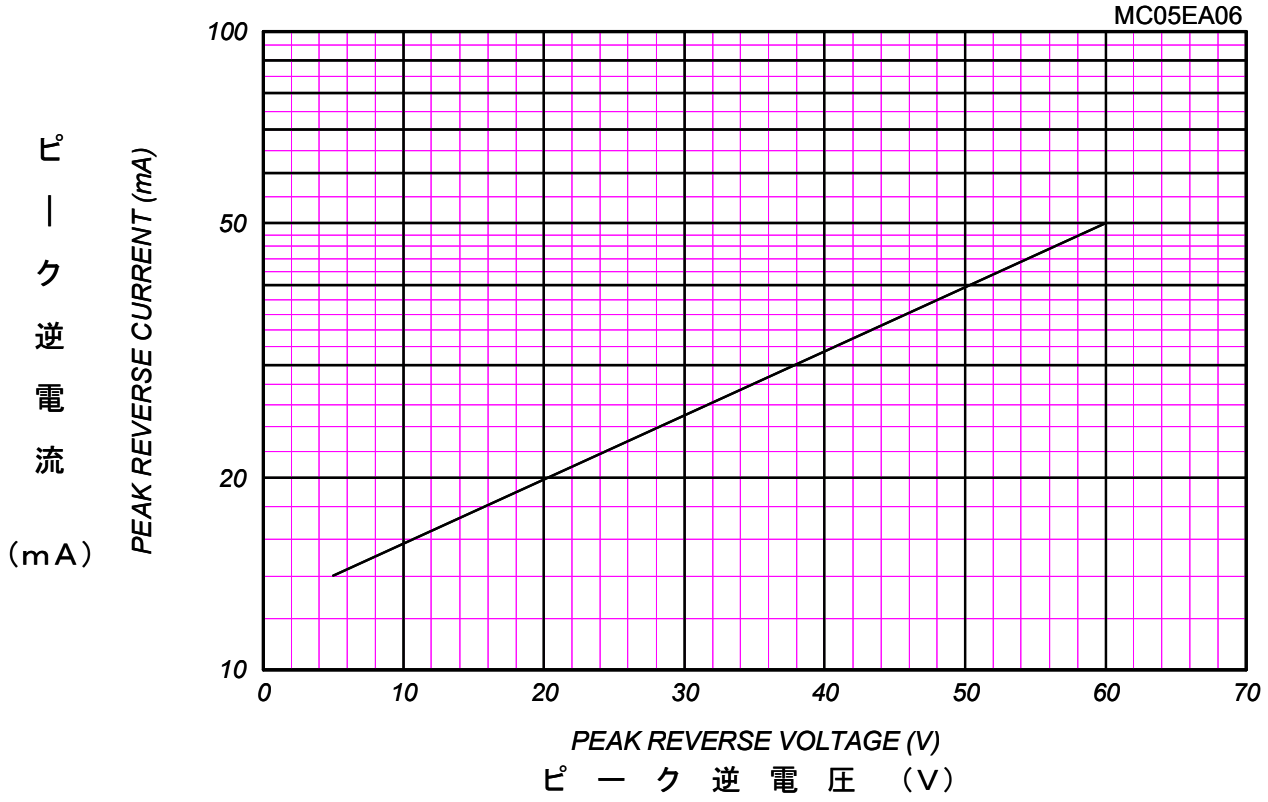
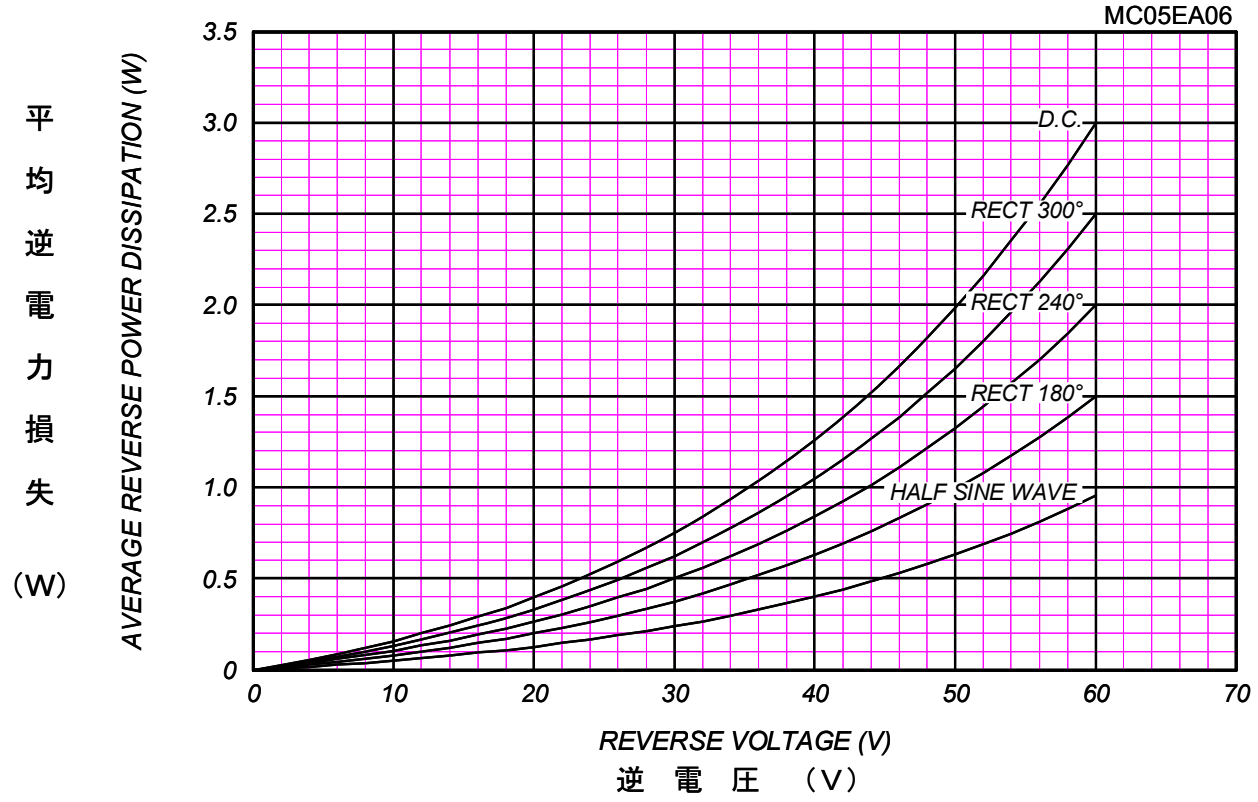
ピーク逆電流　ー　ピーク逆電圧特性
PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

Tj= 150 °C



平均逆電力損失
AVERAGE REVERSE POWER DISSIPATION



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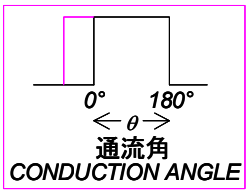

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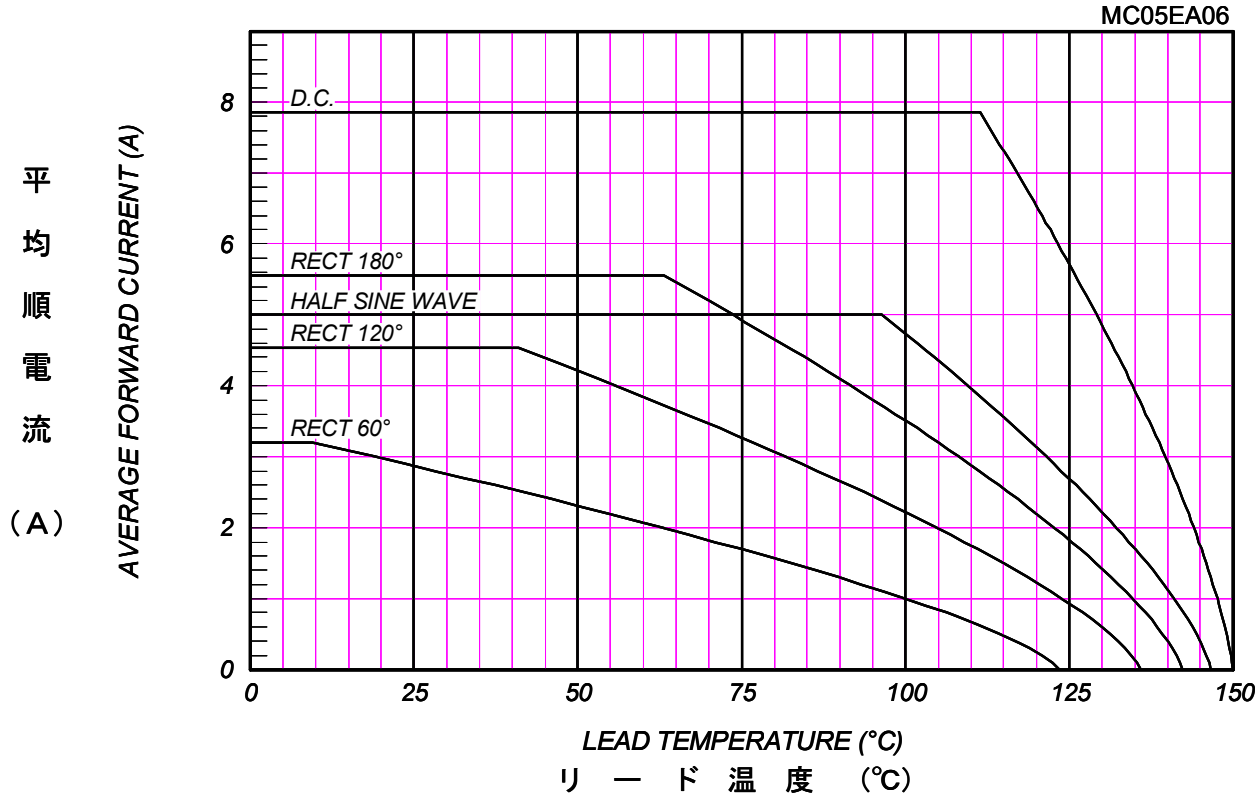
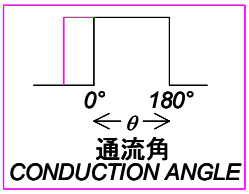
AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

V_{RM}=30V





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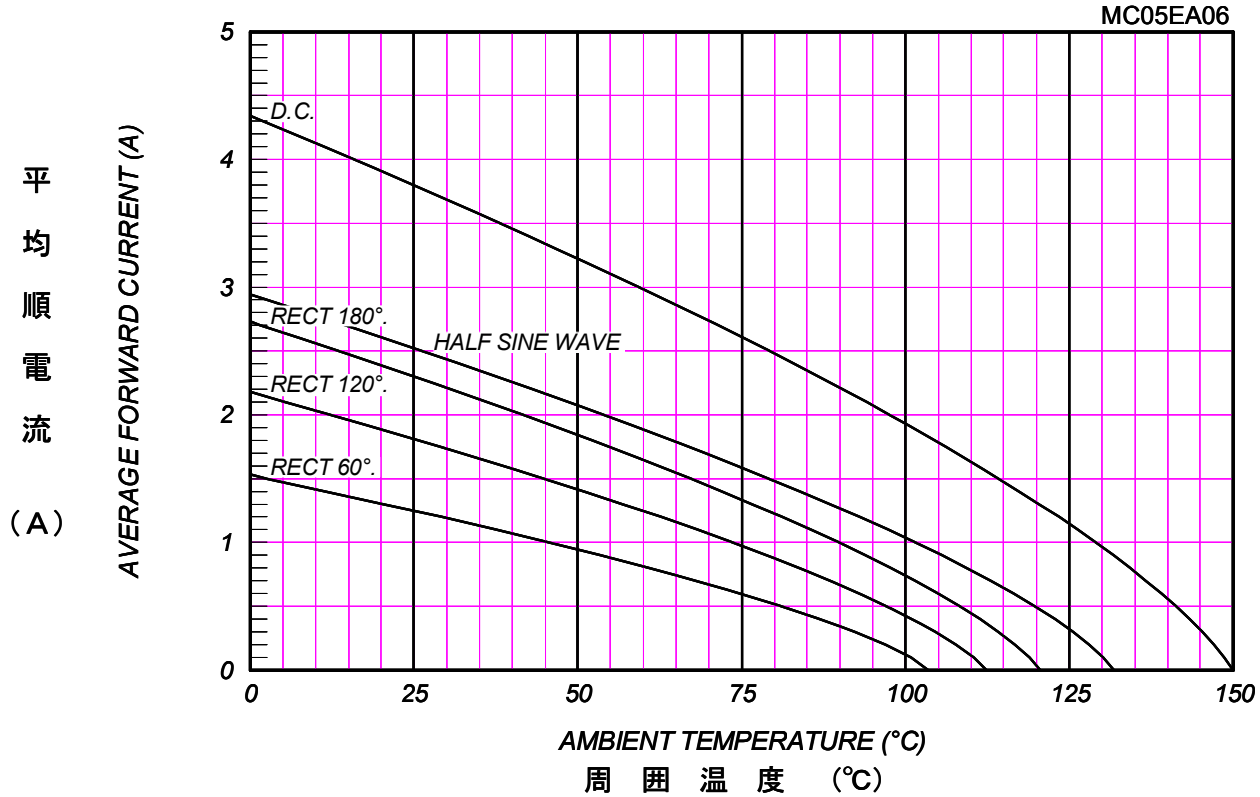
AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

Glass-Epoxy Substrated mounted (Soldering Land 2×3.5mm, Both side), V_{RM}=30V



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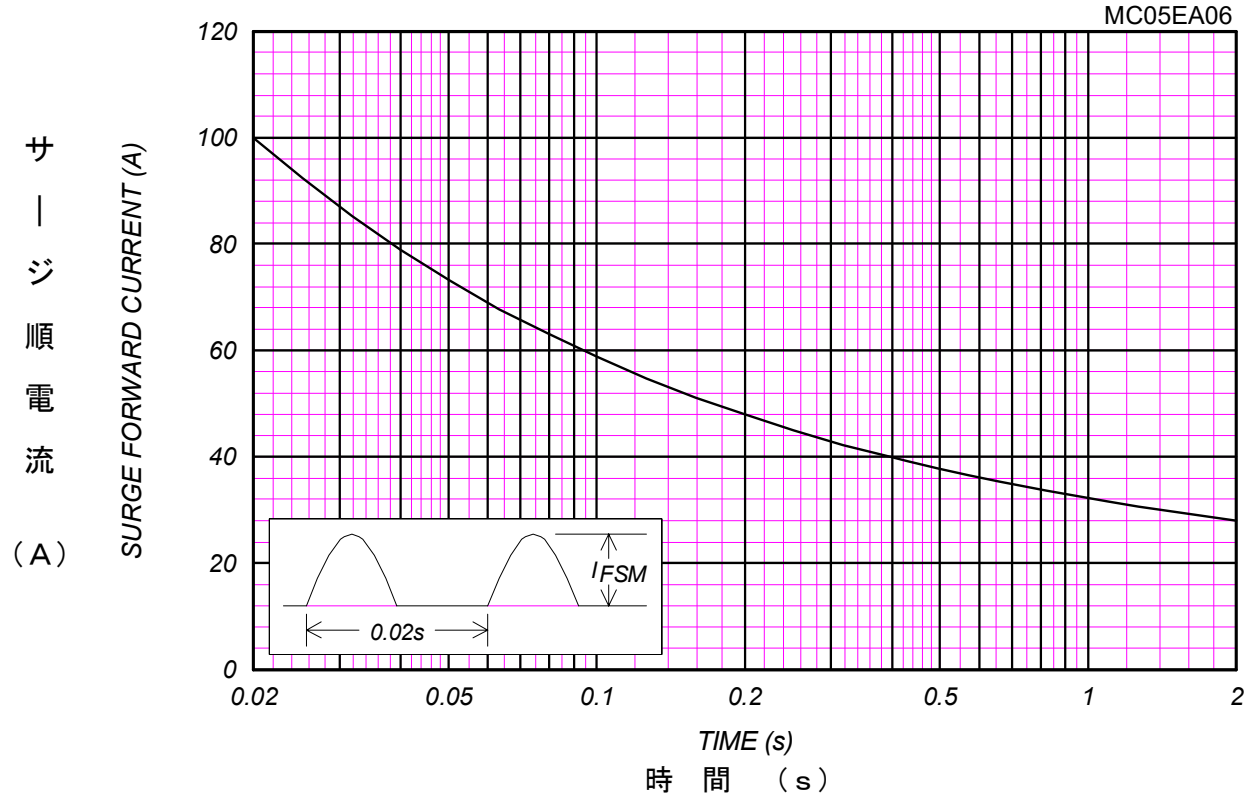
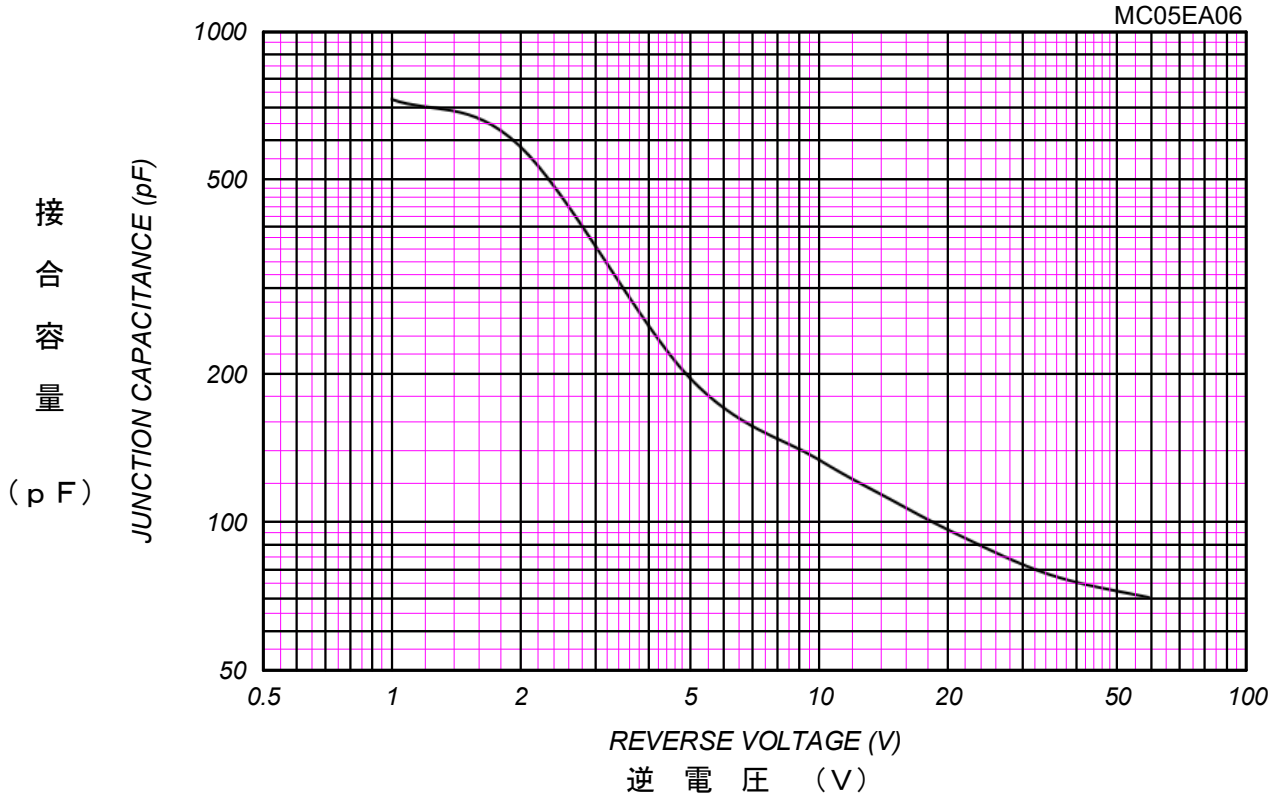
サ ー ジ 順 電 流 定 格
SURGE CURRENT RATINGS

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



接 合 容 量 特 性
JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

Tj=25°C,Vm=20mV_{RMS},f=100kHz,Typical Value



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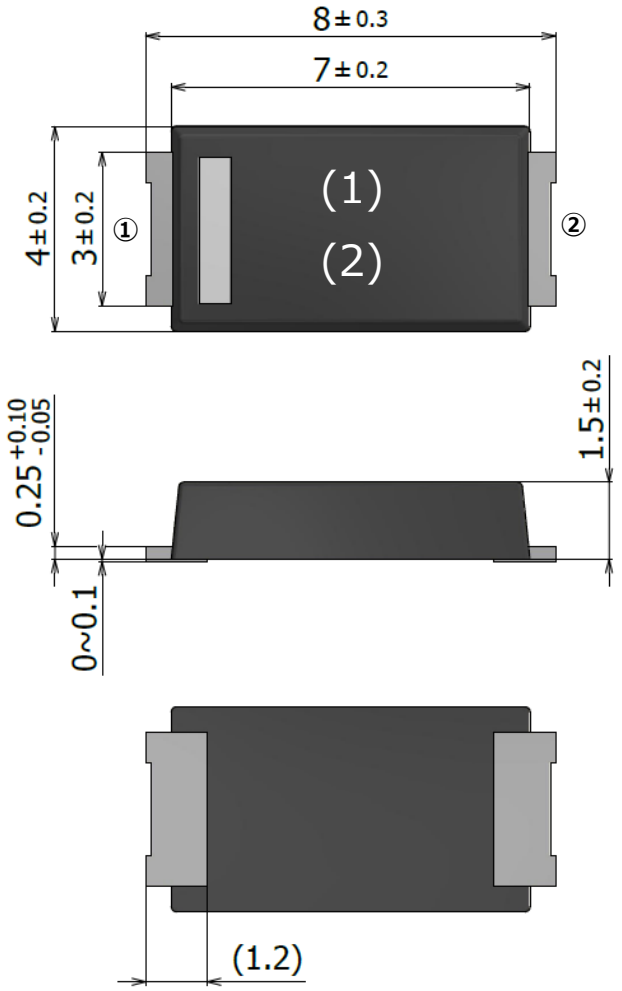
■外形図 Package Outline

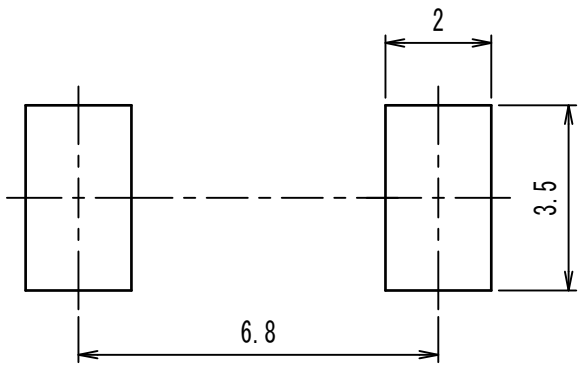


マーク記載内容 Marking
(1) 製品名 Type
MC05EA06 : E56

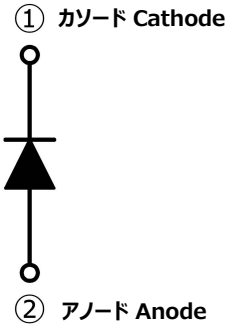
(2) ・生産年 Production year
・生産月 Production month
・生産ロット Lot No.

製品重量： 0.13g
Weight

■推奨ランドサイズ Mounting Pad Layout



■内部回路図 Inner Circuit



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   【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.

   【特別用途】
   輸送機器(車載、船舶等)、基幹用通信機器、交通信号機器、防災/防犯機器、各種安全機器、医療機器等
   【Special applications】
   Transportation equipment (vehicles, ships, etc.), trunk-line communication equipment, traffic signal control systems, anti□disaster/crime systems, safety equipment, medical equipment, etc.

   【特定用途】
   原子力制御システム、航空機器、航空宇宙機器、海底中継機器、生命維持のための装置、システム等
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