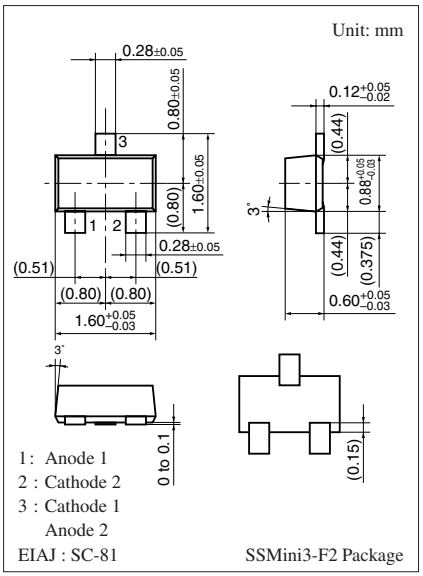
MA3SD05F

Silicon epitaxial planar type

For high frequency rectification

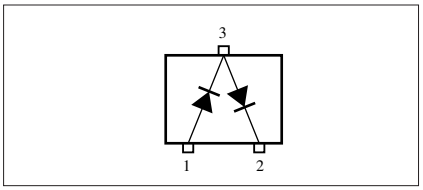
■ Features

- Series connection
- High-density mounting is possible



Marking Symbol: M5C

Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

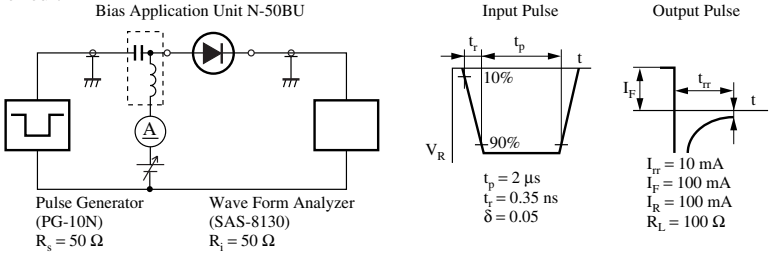
Parameter		Symbol	Rating	Unit
Reverse voltage		V_R	45	V
Maximum peak reverse voltage		V_{RM}	45	V
Forward current	Single	I_F	100	mA
	Series		75	
Peak forward current	Single	I_{FM}	300	mA
	Series		225	
Non-repetitive peak forward surge current *	Single	I_{FSM}	1	A
	Series		0.75	
Junction temperature		T_j	125	°C
Storage temperature		T_{stg}	−55 to +125	°C

Note) ∗: The peak-to-peak value in one cycle of 50 Hz sine wave (non-repetitive)

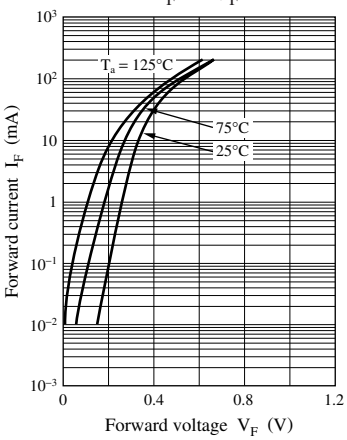
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 100 mA		0.54	0.60	V
Reverse current	I_R	V_R = 40 V			5	µA
Terminal capacitance	C_t	V_R = 0 V, f = 1 MHz		12	18	pF
Reverse recovery time *	t_{rr}	$I_F = I_R$ = 100 mA I_{rr} = 10 mA, R_L = 100 Ω		2.0		ns

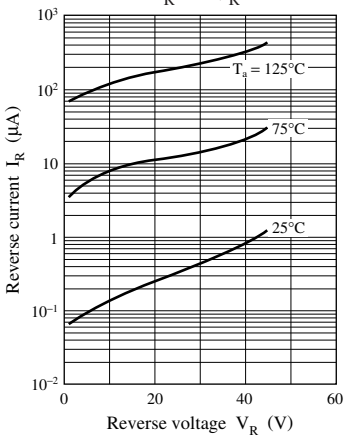
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.
2. This product is sensitive to electric shock (static electricity, etc.). Due attention must be paid on the charge of a human body and the leakage of current from the operating equipment.
3. Absolute frequency of input and output is 250 MHz
4. ∗: t_{rr} measurement circuit



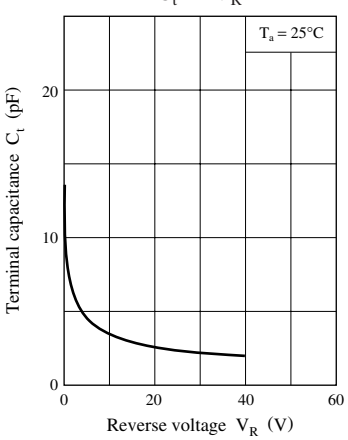
I_F — V_F



I_R — V_R



C_t — V_R



This product complies with the RoHS Directive (EU 2002/95/EC).

Request for your special attention and precautions in using the technical information and semiconductors described in this material

(1) An export permit needs to be obtained from the competent authorities of the Japanese Government if any of the products or technical information described in this material and controlled under the "Foreign Exchange and Foreign Trade Law" is to be exported or taken out of Japan.

(2) The technical information described in this material is limited to showing representative characteristics and applied circuits examples of the products. It neither warrants non-infringement of intellectual property right or any other rights owned by our company or a third party, nor grants any license.

(3) We are not liable for the infringement of rights owned by a third party arising out of the use of the technical information as described in this material.

(4) The products described in this material are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
- Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
- Any applications other than the standard applications intended.

(5) The products and product specifications described in this material are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.

(6) When designing your equipment, comply with the guaranteed values, in particular those of maximum rating, the range of operating power supply voltage, and heat radiation characteristics. Otherwise, we will not be liable for any defect which may arise later in your equipment.
Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.

(7) When using products for which damp-proof packing is required, observe the conditions (including shelf life and amount of time let standing of unsealed items) agreed upon when specification sheets are individually exchanged.