MA3X717D (MA717WA), MA3X717E (MA717WK)

Silicon epitaxial planar type

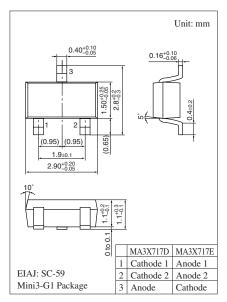
For switching

■ Features

- Two MA3X717 (MA717) is contained in one package
- Forward voltage V_F, optimum for low voltage rectification
- Low V_F type of MA3X704D (MA704WA), MA3X704E (MA704WK)
- Optimum for high frequency rectification because of its short reverse recovery time (t_{rr})

■ Absolute Maximum Ratings $T_a = 25$ °C

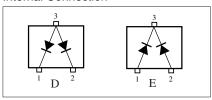
Parameter		Symbol	Rating	Unit
Reverse voltage		V_R	30	V
Maximum peak reverse voltage		V _{RM}	30	V
Forward current	Single	I_{F}	30	mA
	Double		20	
Peak forward current	Single	I_{FM}	150	mA
	Double		110	
Junction temperature		T _j	125	°C
Storage temperature		T _{stg}	-55 to +125	°C



Marking Symbol

• MA3X717D: M3E • MA3X717E: M3D

Internal Connection



■ Electrical Characteristics T_a=25°C ± 3°C

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Forward voltage	V_{F1}	$I_F = 1 \text{ mA}$			0.3	V
	V_{F2}	$I_F = 30 \text{ mA}$			1.0	
Reverse current	I_R	$V_R = 30 \text{ V}$			30	μΑ
Terminal capacitance	C _t	$V_R = 1 \text{ V, } f = 1 \text{ MHz}$		1.5		pF
Reverse recovery time *	t _{rr}	$I_F = I_R = 10 \text{ mA}$		1.0		ns
		$I_{rr} = 1 \text{ mA}$, $R_L = 100 \Omega$				
Detection efficiency	η	$V_{IN} = 3 V_{(peak)}$, $f = 30 MHz$		65		%
		$R_L = 3.9 \text{ k}\Omega, C_L = 10 \text{ pF}$				

- 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 2 GHz.

Pulse Generator

(PG-10N)

Publication date: April 2004

4. *: t_{rr} measurement circuit _{Bias Application Unit (N-50BU)} Input Pulse Output Pulse 10 mA

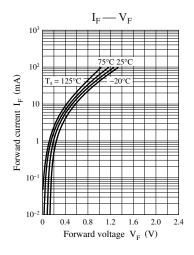
Wave Form Analyzer

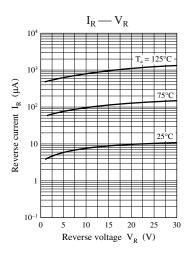
 $R_s = 50 \Omega$ $R_i = 50 \Omega$ Note) The part numbers in the parenthesis show conventional part number. SKH00078CED

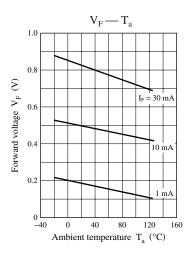
 $\delta = 0.05$

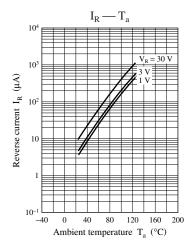
 $R_r = 100 \Omega$

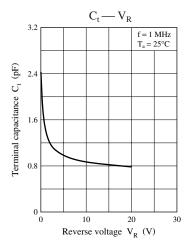
1











2 SKH00078CED

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.

physical injury, fire, social damages, for example, by using the products.

- (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
- (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.
- (8) This material may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.