

MA3J745D

Silicon epitaxial planar type

For switching circuits

■ Features

- Optimum for low-voltage rectification because of its low forward rise voltage (V_F)
- Optimum for high-frequency rectification because of its short reverse recovery time (t_{rr})

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	V_R	30	V
Peak reverse voltage	V_{RM}	30	V
Forward current (DC)	Single	I_F	30
	Double*		
		20	mA
Peak forward current	Single	I_{FM}	150
	Double*		
		110	mA
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

Note) *: Value per chip

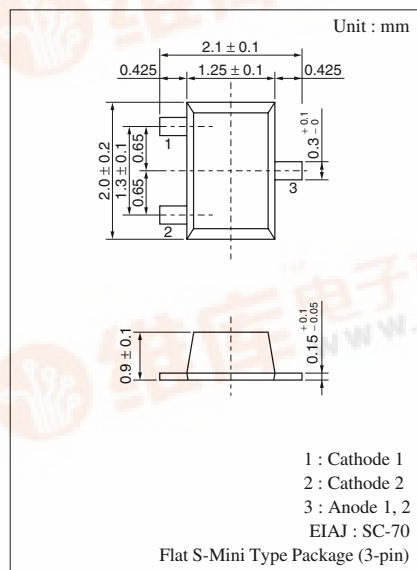
■ Electrical Characteristics $T_a = 25^\circ\text{C}$

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

Note) 1. Schottky barrier diode 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.

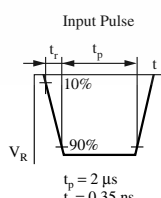
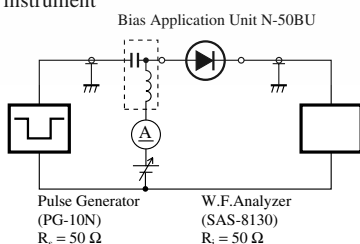
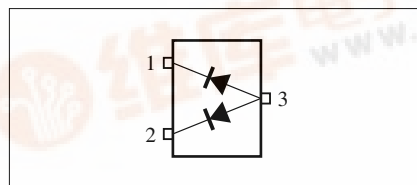
2. Rated input/output frequency: 2 000 MHz

3. *: t_{rr} measuring instrument



Marking Symbol: M3E

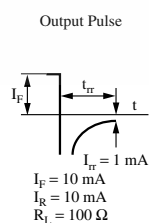
Internal Connection



$$t_p = 2\ \mu\text{s}$$

$$t_r = 0.35\text{ ns}$$

$$\delta = 0.05$$



$$I_F = 10\text{ mA}$$

$$I_R = 10\text{ mA}$$

$$R_L = 100\ \Omega$$

