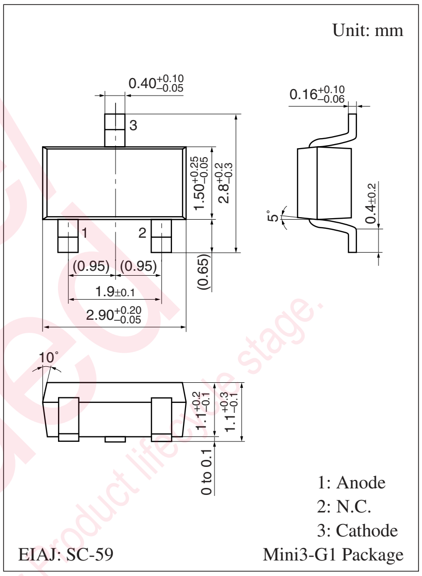
MA3X748 (MA748)

Silicon epitaxial planar type

For high frequency rectification

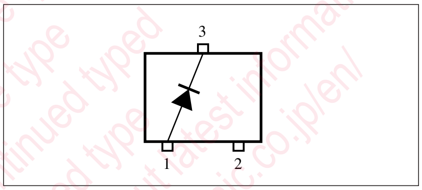


■ Features

- Low V_F type of MA3X720 (MA720)
- Low forward voltage V_F and good rectification efficiency
- Optimum for high frequency rectification because of its short reverse recovery time t_{rr}

Marking Symbol: M4E

Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

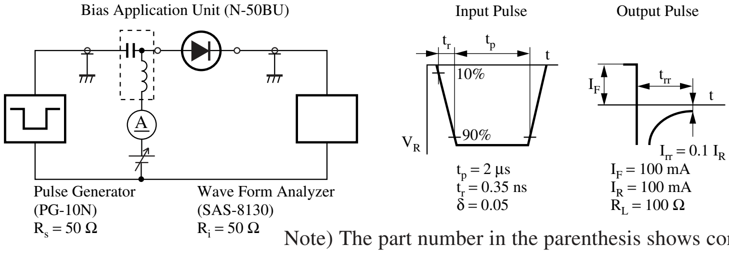
Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	20	V
Repetitive peak reverse voltage	V_{RRM}	20	V
Forward current (Average)	$I_{F(AV)}$	500	mA
Non-repetitive peak forward surge current *	I_{FSM}	3	A
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	−55 to +125	°C

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

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

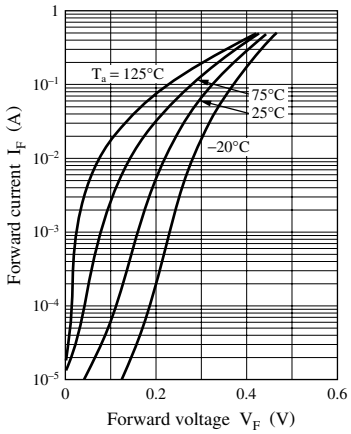
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_{F1}	$I_F = 10$ mA			0.3	V
	V_{F2}	$I_F = 500$ mA			0.5	
Reverse current	I_R	$V_R = 10$ V			30	μA
Terminal capacitance	C_t	$V_R = 0$ V, f = 1 MHz		60		pF
Reverse recovery time *	t_{rr}	$I_F = I_R = 100$ mA $I_{rr} = 0.1\ I_R$, $R_L = 100\ \Omega$		5		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 400 MHz.
4. ∗: t_{rr} measurement circuit

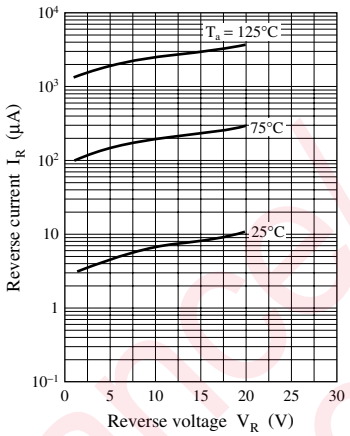


Note) The part number in the parenthesis shows conventional part number.

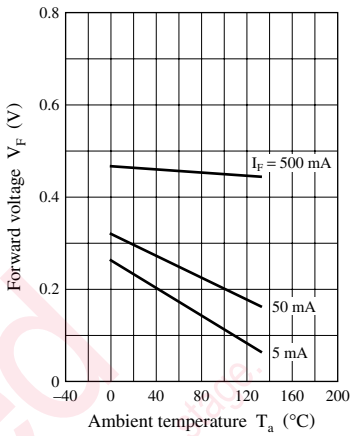
I_F — V_F



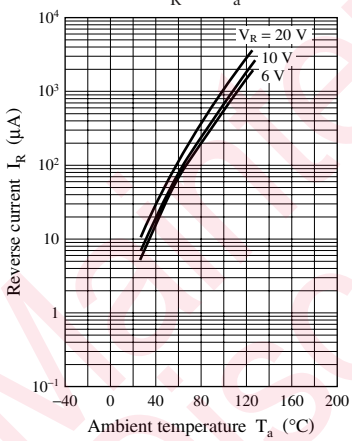
I_R — V_R



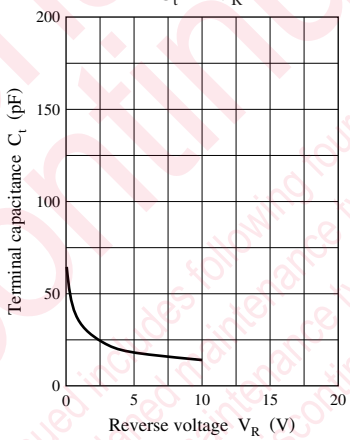
V_F — T_a



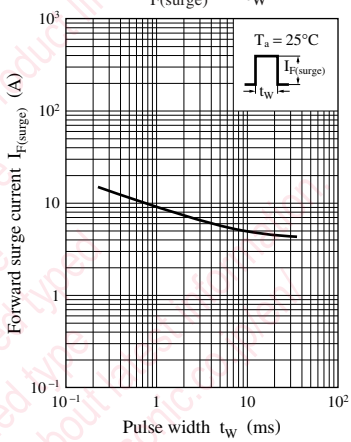
I_R — T_a



C_t — V_R



$I_{F(surge)}$ — t_W



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