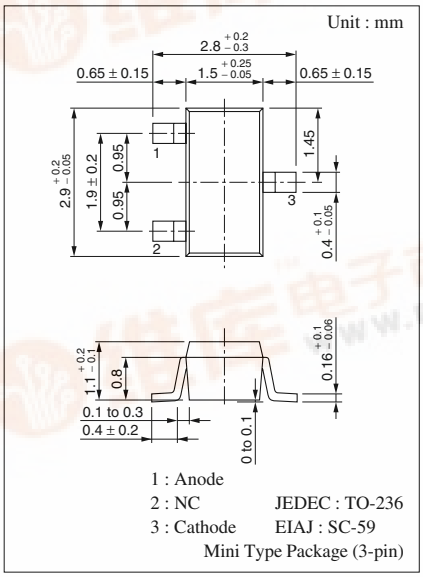
MA3X704, MA3X704A

Silicon epitaxial planar type

For switching circuits

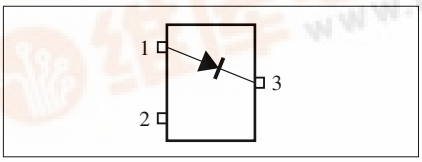
For wave detection circuit



Marking Symbol

• MA3X704 : M1K • MA3X704A : M1L

Internal Connection



■ Features

- Low forward rise voltage (V_F) and satisfactory wave detection efficiency (η)
- Small temperature coefficient of forward characteristic
- Extremely low reverse current I_R

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Reverse voltage (DC)	MA3X704	V_R	15	V
	MA3X704A		30	
Peak reverse voltage	MA3X704	V_{RM}	15	V
	MA3X704A		30	
Peak forward current		I_{FM}	150	mA
Forward current (DC)		I_F	30	mA
Junction temperature		T_j	125	°C
Storage temperature		T_{stg}	−55 to +125	°C

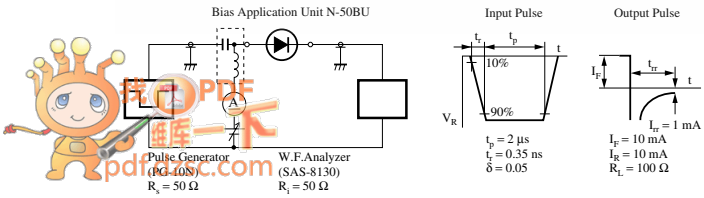
■ Electrical Characteristics $T_a = 25°C$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Reverse current (DC)	MA3X704	I_R	V_R = 15 V			200	nA
	MA3X704A		V_R = 30 V			300	
Forward voltage (DC)		V_{F1}	I_F = 1 mA			0.4	V
		V_{F2}	I_F = 30 mA			1	V
Terminal capacitance		C_t	V_R = 1 V, f = 1 MHz		1.5		pF
Reverse recovery time*		t_{rr}	$I_F = I_R$ = 10 mA I_{rr} = 1 mA, R_L = 100 Ω		1		ns
Detection efficiency		η	V_{in} = 3 $V_{(peak)}$, f = 30 MHz R_L = 3.9 kΩ, C_L = 10 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

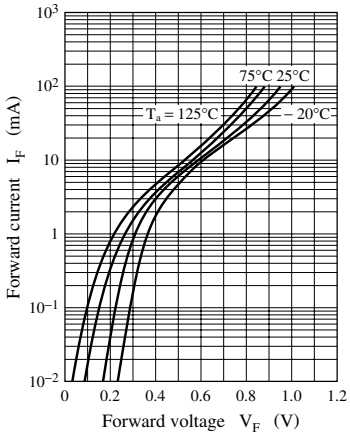
2. Rated input/output frequency: 2 000 MHz

3. * : t_{rr} measuring instrument

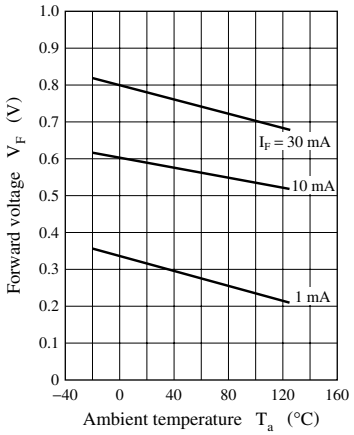


Common characteristics charts

I_F — V_F

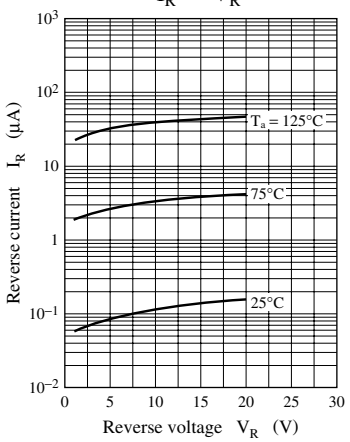


V_F — T_a

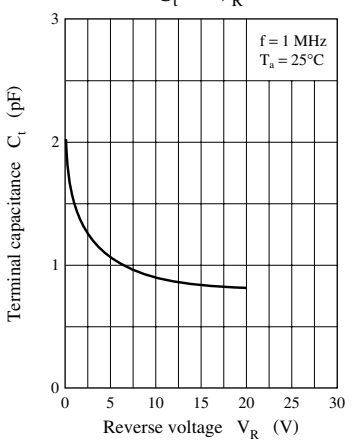


Characteristics charts of MA3X704

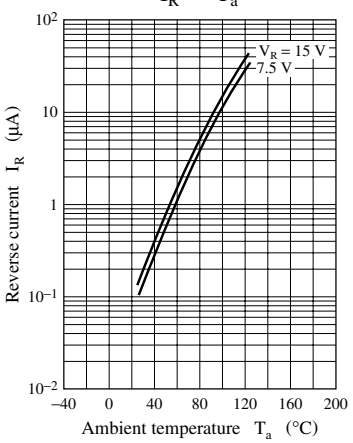
I_R — V_R



C_t — V_R

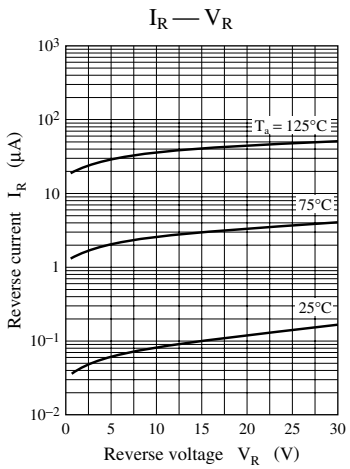


I_R — T_a

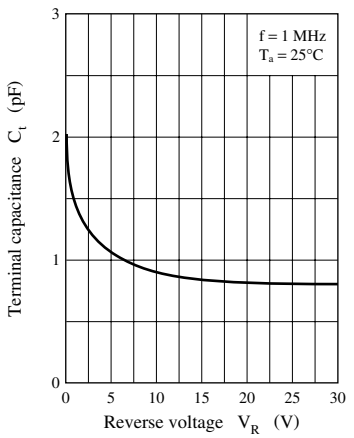


Characteristics charts of MA3X704A

I_R — V_R



C_t — V_R



I_R — T_a