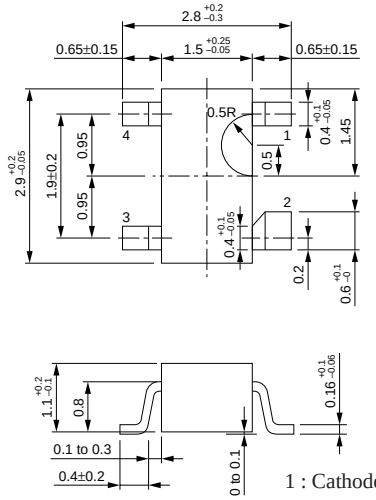
MA743

Silicon epitaxial planer type

■ Features

- MA704A and MA721 chip with two elements incorporated
- Fast reverse recovery period t_{rr}
- Auto mounting possible

Unit : mm

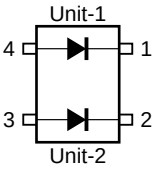


■ Absolute Maximum Ratings (Ta= 25˚C)

● Unit-1(MA704A)

Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	V_R	30	V
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

■ Internal Connection



● Unit-2(MA721)

Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	V_R	30	V
Non-repetitive peak forward current	I_{FSM}	1	A
Peak forward current	I_{FM}	300	mA
Average forward current	$I_{F(AV)}$	200	mA
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	– 55 to +150	˚C

Note 1. 50Hz sine wave, one-cycle wave, high value (non-repetitive)
2. Schottky barrier diode is sensitive to electric shock (static electricity, etc.). Due attention must be paid on charge of a human body and leakage from the equipment used.

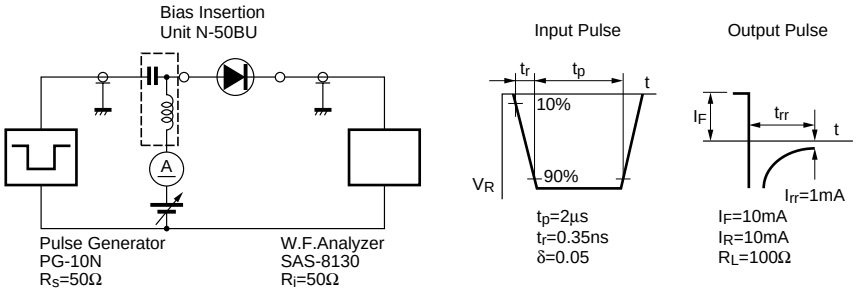
■ Marking

■ Electrical Characteristics (Ta= 25˚C)

● Unit-1(MA704A)

Parameter	Symbol	Condition	min	typ	max	Unit
Reverse current (DC)	I_R	V_R = 30V			300	µA
Forward voltage (DC)	V_{F1}	I_F =1mA			0.4	V
	V_{F2}	I_F = 30mA			1.0	V
Terminal capacitance	C_t	V_R =1V, f=1MHz		1.5		pF
Reverse recovery time	t_{rr}*	I_F = I_R=10mA I_{rr}=1mA, R_L=100Ω		1.0		ns
Detection efficiency	η	V_{in}= 3$V_{(peak)}$, f= 30MHz R_L= 3.9kΩ, C_L=10pF		65		%

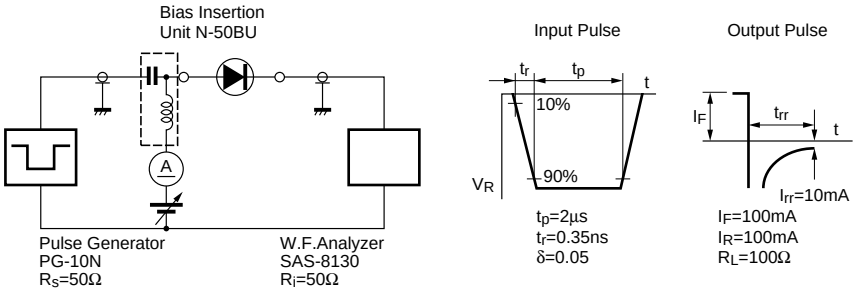
Note 1. Schottky barrier diode is sensitive to electric shock (static electricity, etc.). Due attention must be paid on charge of a human body and leakage from the equipment used.
2. Rated input/output frequency : 2000MHz
3. * t_{rr} measuring circuit



● Unit-2(MA721)

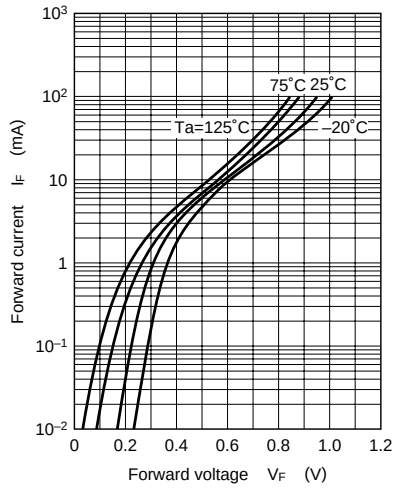
Parameter	Symbol	Condition	min	typ	max	Unit
Reverse current (DC)	I_R	V_R = 30V			50	µA
Forward voltage (DC)	V_F	I_F =200mA			0.55	V
Terminal capacitance	C_t	V_R = 0V, f=1MHz		30		pF
Reverse recovery time	t_{rr}*	I_F = I_R=100mA I_{rr}=10mA, R_L=100Ω		3.0		ns

Note 1. Schottky barrier diode is sensitive to electric shock (static electricity, etc.). Due attention must be paid on charge of a human body and leakage from the equipment used.
2. Rated input/output frequency : 1000MHz
3. * t_{rr} measuring circuit

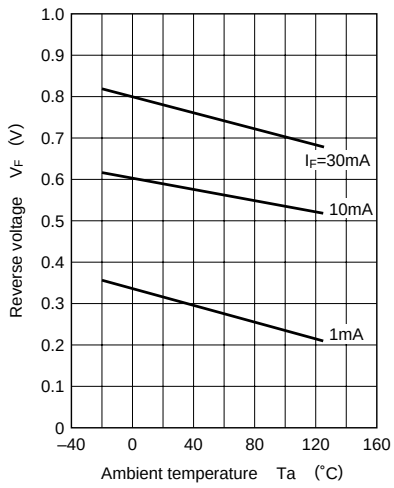


Characteristics chart of Unit-1 (MA704A)

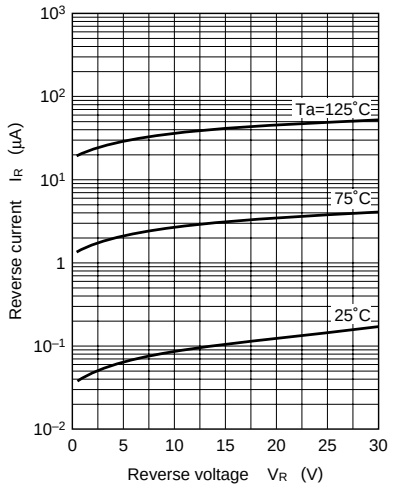
$I_F - V_F$



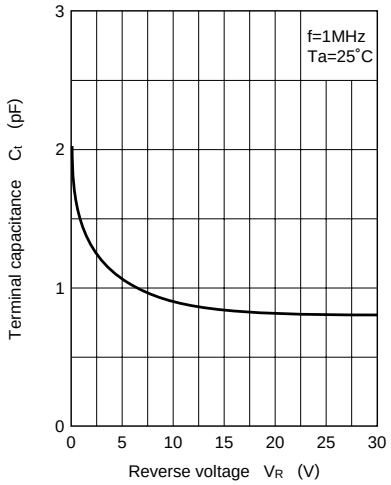
$V_F - Ta$



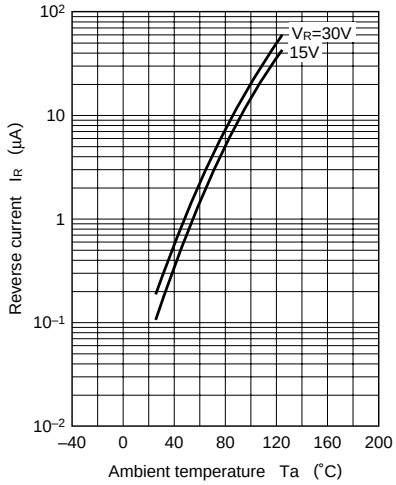
$I_R - V_R$



$C_t - V_R$

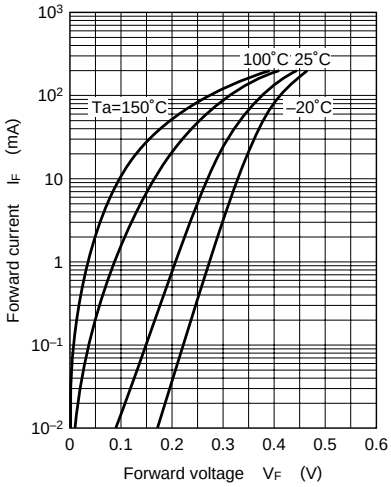


$I_R - Ta$

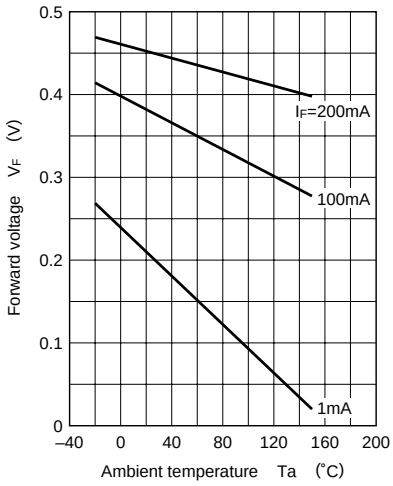


Characteristics chart of Unit-2 (MA721)

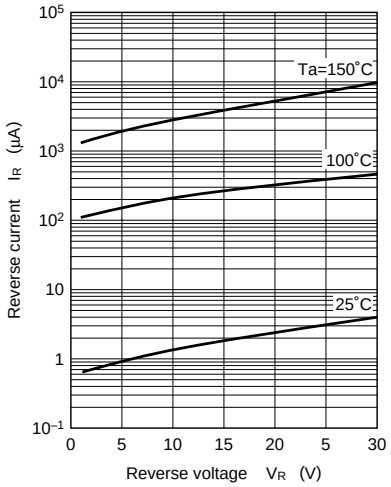
$I_F - V_F$



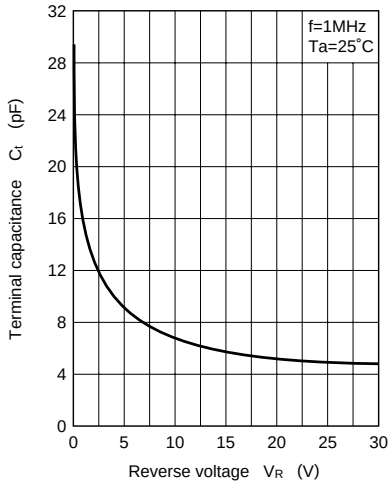
$V_F - Ta$



$I_R - V_R$



$C_t - V_R$



$I_R - Ta$