

# MA221, MA222, MA223

Silicon epitaxial planer type

For high speed switching circuits

## ■ Features

- Extra-small cylindrical package, most favorable for high-density mounting
- Overall dimensions similar to those of resistor and capacitor (1/8W type), enabling sharing of the mounted equipment
- High switching speed and small capacity between pins,  $C_t$

## ■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	MA221	35	V
	MA222	50	
	MA223	75	
Repetitive peak reverse voltage	MA221	35	V
	MA222	50	
	MA223	75	
Average forward current	$I_{F(AV)}$	100	mA
Peak forward current	$I_{FRM}$	225	mA
Non-repetitive peak forward surge current	$I_{FSM}^*$	500	mA
Junction temperature	$T_j$	200	°C
Storage temperature	$T_{stg}$	- 55 to +150	°C

\* t=1s

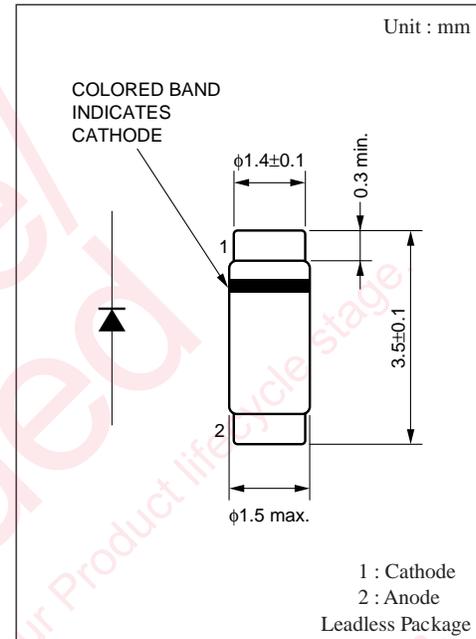
## ■ Electrical Characteristics (Ta= 25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Reverse current (DC)	MA221	$V_R=15V$			25	nA
		$V_R=30V$			0.1	μA
		$V_R=50V$			5	μA
	MA222	$V_R=15V$			25	nA
		$V_R=20V$			25	nA
		$V_R=75V$			5	μA
MA223	$V_R=35V, T_a=150^\circ C$			100	μA	
	$V_R=50V, T_a=150^\circ C$			100		
	$V_R=75V, T_a=150^\circ C$			100		
Forward voltage (DC)	$V_F$	$I_F=100mA$		0.95	1.2	V
Reverse voltage (DC)	MA221	$I_R=5\mu A$	35			V
Terminal capacitance	$C_t$	$V_R=0V, f=1MHz$			2	pF
Reverse recovery time	MA221	$I_F=10mA, V_R=1V$			10	ns
	MA222/223	$I_{rr}=0.1 \cdot I_R, R_L=100\Omega$		2.2	4	

❖ Rated input/output frequency : 100MHz (MA221), 250MHz (MA222, MA223)

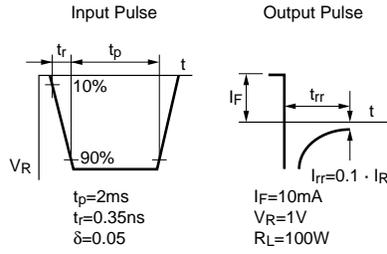
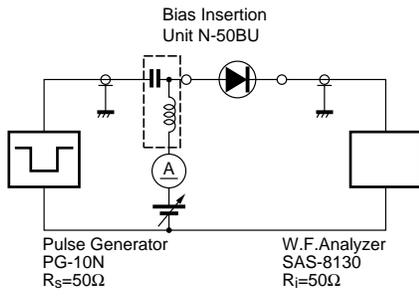
## ■ Cathode Indication

Type No.	MA221	MA222	MA223
Color	White	Green	Purple

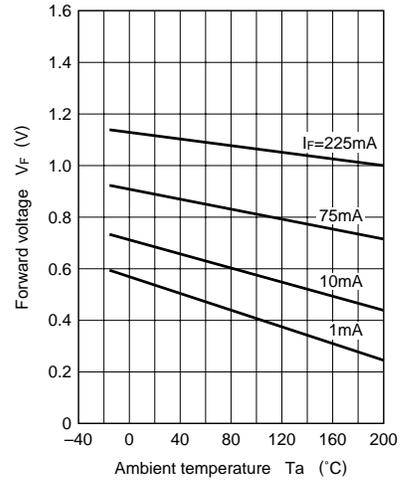


**Common characteristics chart**

\*  $t_{rr}$  measuring circuit

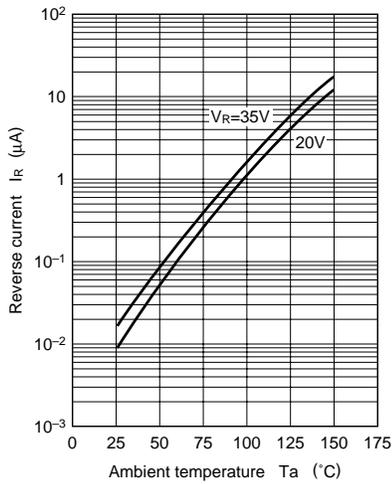


$V_F - T_a$

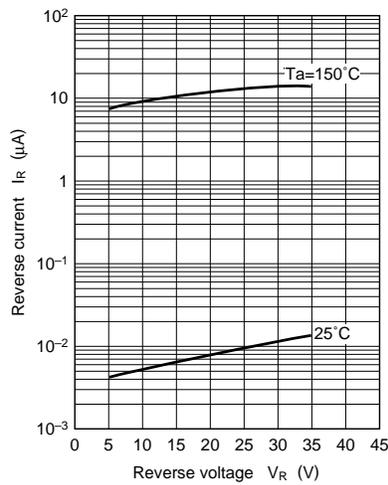


**Characteristics chart of MA221**

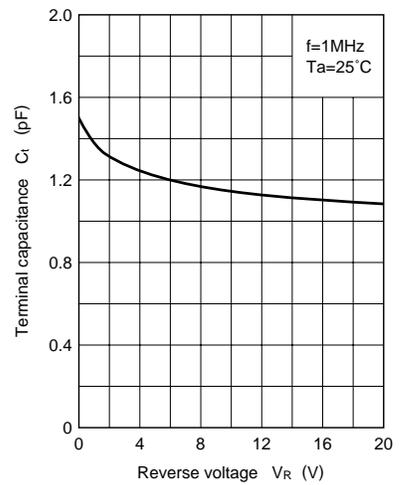
$I_R - T_a$



$I_R - V_R$

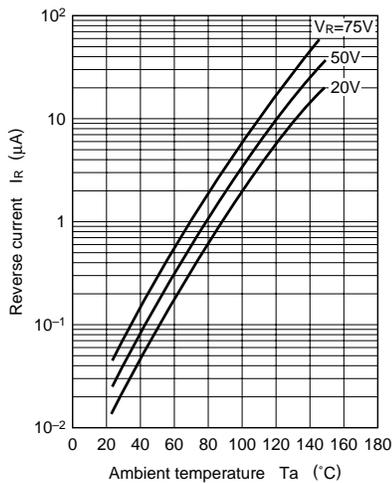


$C_t - V_R$

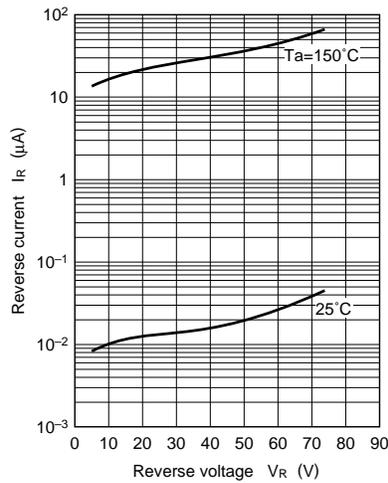


**Characteristics chart of MA222 and MA223**

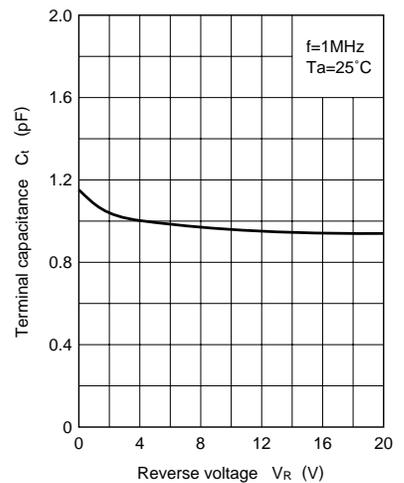
$I_R - T_a$



$I_R - V_R$



$C_t - V_R$



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