

MA999

Silicon epitaxial planer type

For switching circuits

■ Features

- MA704A and MA151K chip with two elements incorporated
- Short reverse recovery period t_{rr}
- Automatic mounting possible

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

● Unit-1(MA704A)

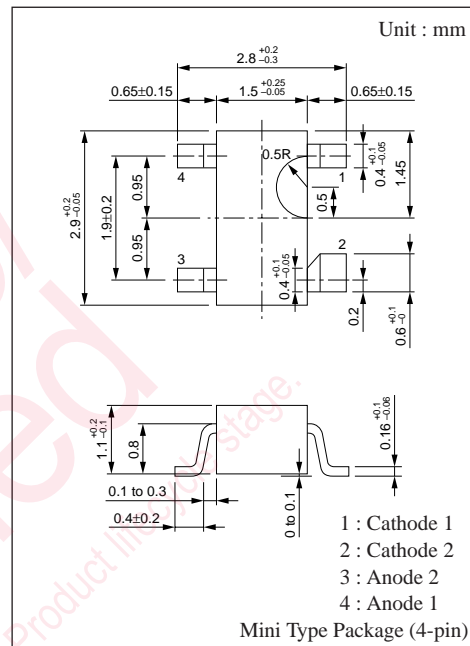
Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	V_R	30	V
Peak reverse voltage	V_{RM}	30	V
Forward current (DC)	I_F	30	mA
Peak forward current	I_{FM}	150	mA
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	- 55 to + 125	$^\circ\text{C}$

● Unit-2(MA151K)

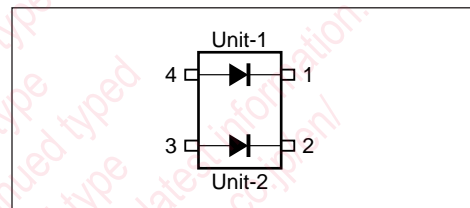
Parameter	Symbol	Rating	Unit
Reverse voltage (DC)	V_R	40	V
Peak reverse voltage	V_{RM}	40	V
Forward current (DC)	I_F	100	mA
Peak forward current	I_{FM}	225	mA
Non-repetitive peak forward surge current	I_{FSM}^*	500	mA
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	- 55 to +125	$^\circ\text{C}$

* $t = 1\text{s}$

■ Marking



■ Internal Connection



■ Electrical Characteristics (Ta= 25°C)

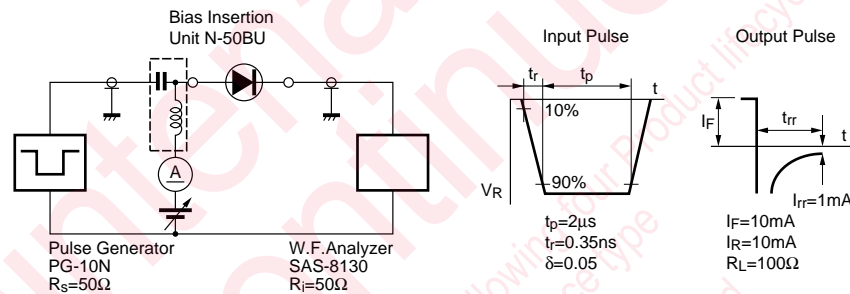
● Unit-1

Parameter	Symbol	Condition	min	typ	max	Unit
Reverse current (DC)	I_R	$V_R= 30V$			300	nA
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}^*	$I_F= I_R=10mA$ $I_{rr}=1mA, R_L=100\Omega$		1.0		ns
Detection efficiency	η	$V_{in}= 3V_{(peak)}, f= 30MHz$ $R_L= 3.9k\Omega, C_L=10pF$		65		%

Note 1 : Rated input/output frequency : 2000MHz

2 : This Schotky barrier diode is sensitive to electric shock (static electricity, etc.). Due attention to the electric charge of a human body or the leakage from the equipment in use.

3 : * t_{rr} measuring circuit

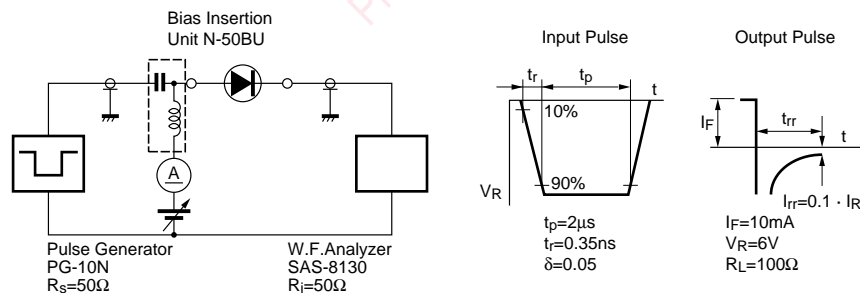


● Unit-2

Parameter	Symbol	Condition	min	typ	max	Unit
Reverse current (DC)	I_R	$V_R= 35V$			100	nA
Forward voltage (DC)	V_F	$I_F=100mA$		0.95	1.2	V
Reverse voltage (DC)	V_R	$I_R=100\mu A$	40			V
Terminal capacitance	C_t	$V_R= 0V, f=1MHz$		0.9	2	pF
Reverse recovery time	t_{rr}^*	$I_F=10mA, V_R= 6V$ $I_{rr}= 0.1 \cdot I_R, R_L=100\Omega$			3	ns

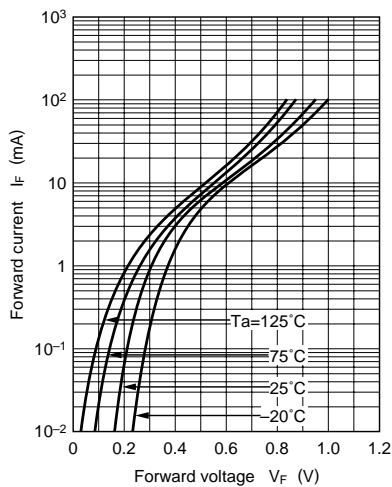
Note 1 : Rated input/output frequency : 100MHz

2 : * t_{rr} measuring circuit

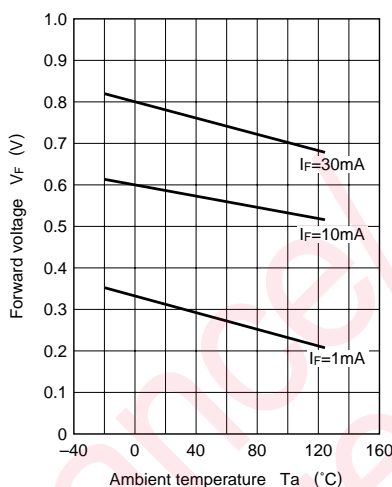


Characteristics chart of Unit-1(MA704A) (Between pins 1 and 4)

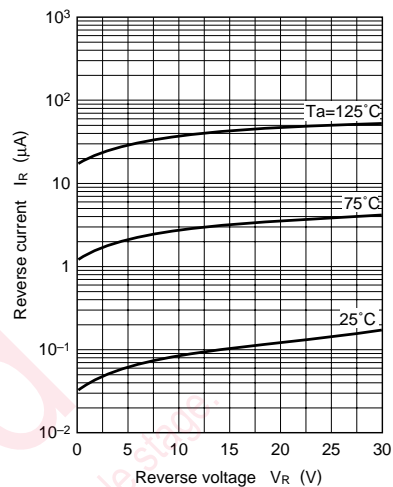
$I_F - V_F$



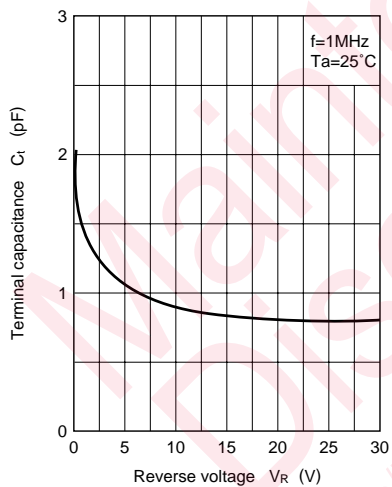
$V_F - T_a$



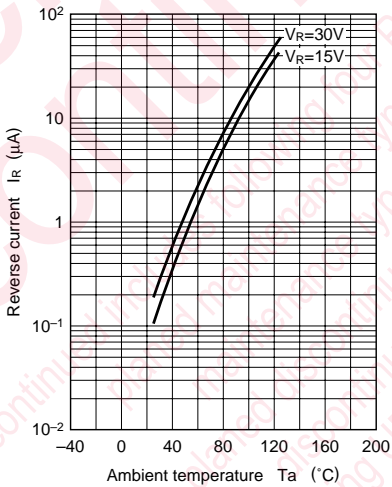
$I_R - V_R$



$C_t - V_R$

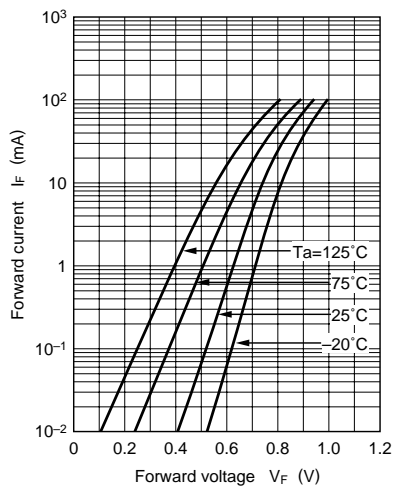


$I_R - T_a$

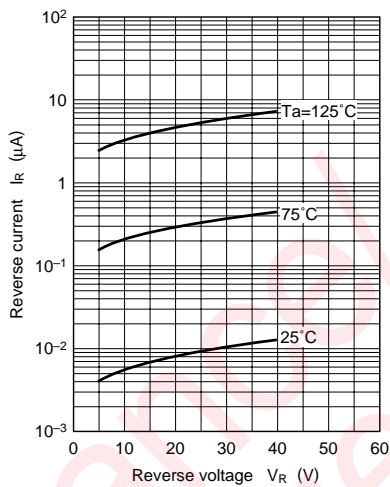


Characteristics chart of Unit-2(MA151K) (Between pins 2 and 3)

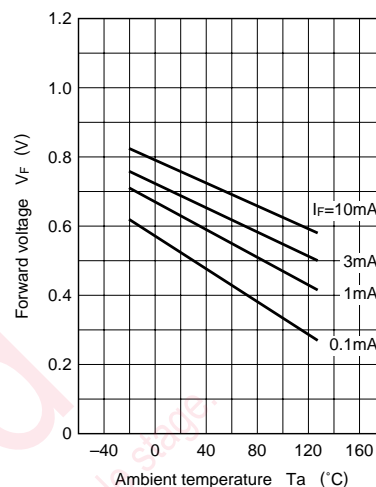
$I_F - V_F$



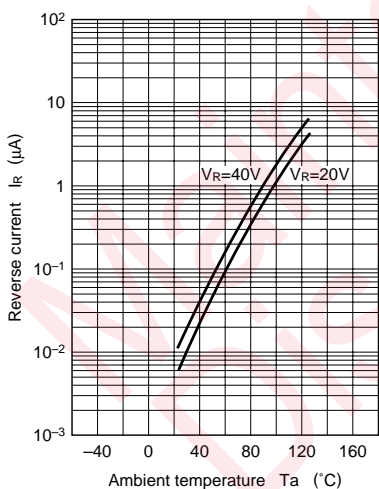
$I_R - V_R$



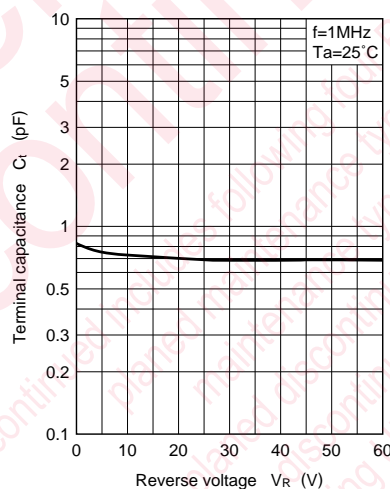
$V_F - T_a$



$I_R - T_a$



$C_t - V_R$



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