

MA2C165 (MA165), MA2C166 (MA166), MA2C167 (MA167)

Silicon epitaxial planar type

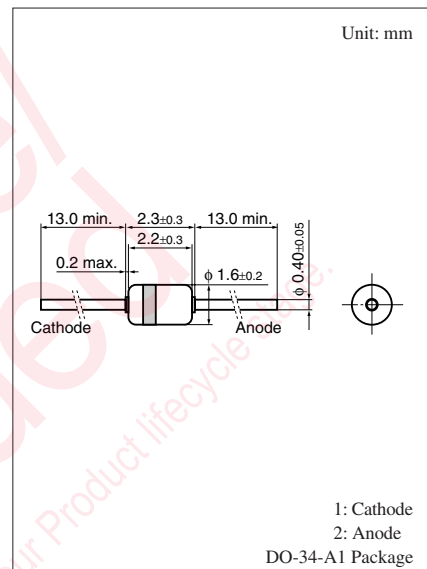
For switching circuits

■ Features

- Short reverse recovery time t_{rr}
- Small terminal capacitance C_t

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

Parameter	Symbol	Rating	Unit	
Reverse voltage	MA2C165	V_R	35	V
	MA2C166		50	
	MA2C167		75	
Repetitive peak reverse voltage	MA2C165	V_{RRM}	35	V
	MA2C166		50	
	MA2C167		75	
Forward current (Average)	$I_{F(AV)}$	100	mA	
Repetitive peak forward current	I_{FRM}	225	mA	
Non-repetitive peak forward surge current *	I_{FSM}	500	mA	
Junction temperature	T_j	200	$^\circ\text{C}$	
Storage temperature	T_{sig}	-55 to +200	$^\circ\text{C}$	

Note) *: $t = 1 \text{ s}$ ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
Forward voltage	V_F	$I_F = 100 \text{ mA}$		0.95	1.20	V	
Reverse voltage	MA2C165 V_R	$I_R = 5 \mu\text{A}$	35			V	
Reverse current	MA2C165 I_{R1}	$V_R = 15 \text{ V}$			25	nA	
		$V_R = 15 \text{ V}$			25		
		$V_R = 20 \text{ V}$			25		
	MA2C165 I_{R2}	$V_R = 30 \text{ V}$			100	nA	
		$V_R = 50 \text{ V}$			5		μA
		$V_R = 75 \text{ V}$			5		
	MA2C165 I_{R3}	$V_R = 35 \text{ V}, T_a = 150^\circ\text{C}$			100	μA	
		$V_R = 50 \text{ V}, T_a = 150^\circ\text{C}$			100		
		$V_R = 75 \text{ V}, T_a = 150^\circ\text{C}$			100		
Terminal capacitance	C_t	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		0.9	2.0	pF	
Reverse recovery time *	MA2C165	t_{rr}	$I_F = 10 \text{ mA}, V_R = 1 \text{ V}$		10	ns	
	MA2C166/167			$I_{rr} = 0.1 I_R, R_L = 100 \Omega$	2.2		4.0

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

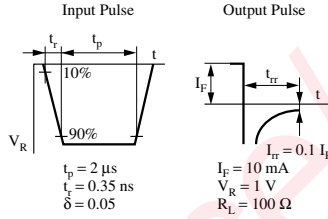
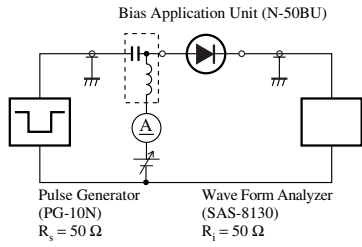
2. Absolute frequency of input and output is 100 MHz (MA2C165), 1000 MHz (MA2C166), 250MHz (MA2C167).

3. *: t_{rr} measurement circuit

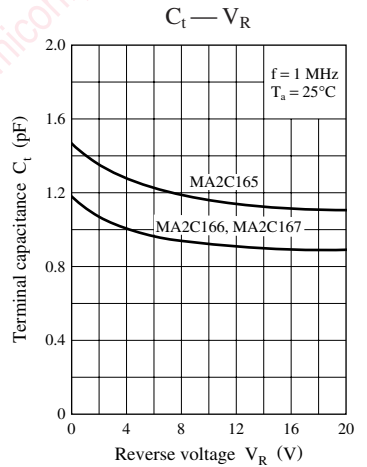
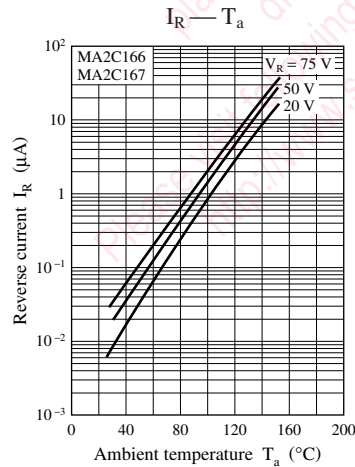
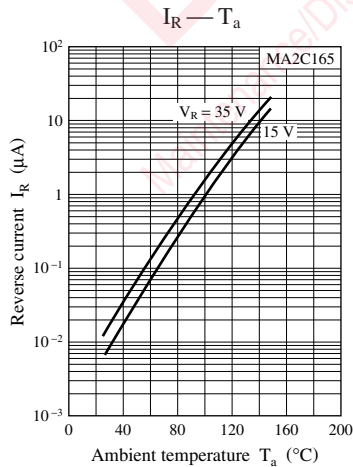
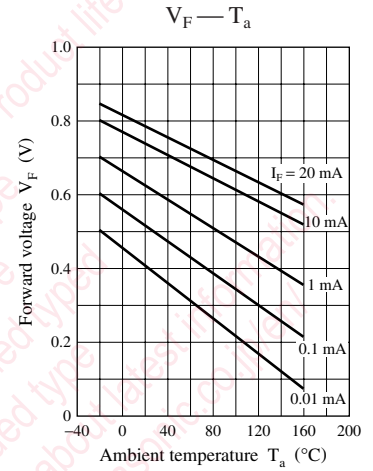
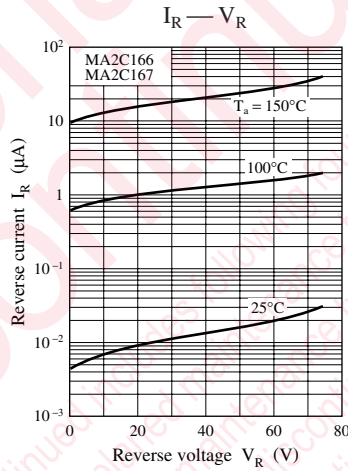
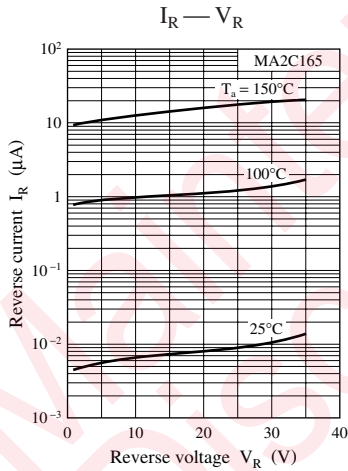
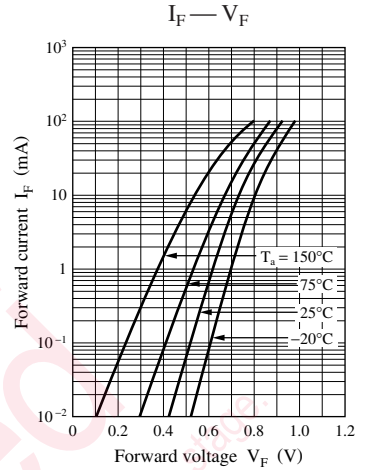
■ Cathode Indication

Type No.	MA2C165	MA2C166	MA2C167
Color	White	Green	Violet

Note) The part numbers in the parenthesis show conventional part number.



t_{tr} measurement circuit



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