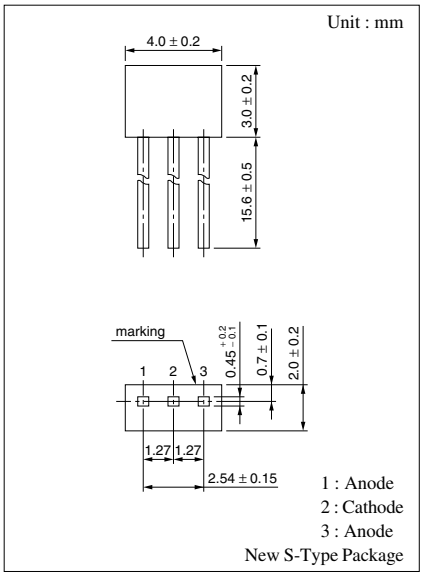
MA3V175E, MA3V176E

Silicon epitaxial planar type

For switching circuits



■ Features

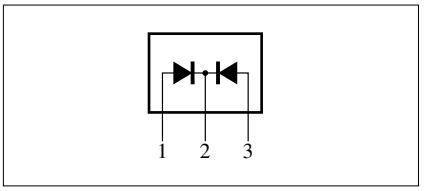
- Short reverse recovery time t_{rr}
- Small terminal capacitance, C_t

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Reverse voltage (DC)	MA3V175E	V_R	40	V
	MA3V176E		80	
Peak reverse voltage	MA3V175E	V_{RM}	40	V
	MA3V176E		80	
Forward current (DC)	Single	I_F	100	mA
	Double		150	
Peak forward current	Single	I_{FM}	225	mA
	Double		340	
Non-repetitive peak forward surge current*	Single	I_{FSM}	500	mA
	Double		750	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

Note) * : t = 1 s

Internal Connection

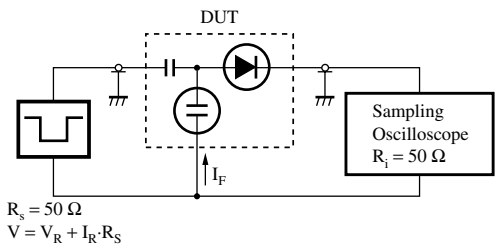


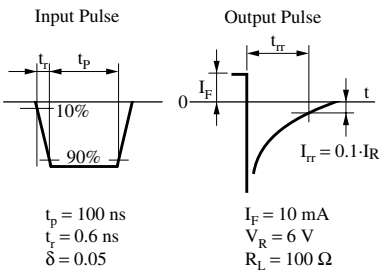
■ Electrical Characteristics $T_a = 25°C$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Reverse current (DC)	MA3V175E	I_R	V_R = 35 V			0.1	µA
	MA3V176E		V_R = 75 V			0.1	
Forward voltage (DC)		V_F	I_F = 100 mA			1.2	V
Reverse voltage (DC)	MA3V175E	V_R	I_R = 100 µA	40			V
	MA3V176E			80			
Terminal capacitance		C_t	V_R = 0 V, f = 1 MHz			4	pF
Reverse recovery time*		t_{rr}	I_F = 10 mA, V_R = 6 V I_{rr} = 0.1 · I_R, R_L = 100Ω			3	ns

Note) 1. Rated input/output frequency: 100 MHz

2. * : t_{rr} measuring circuit

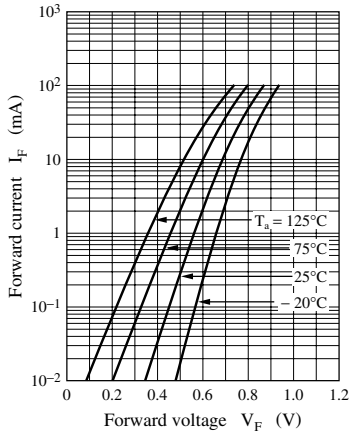




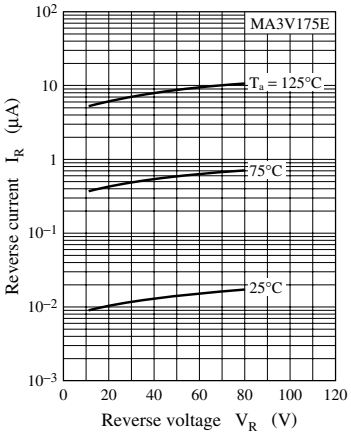
t_p = 100 ns
t_r = 0.6 ns
δ = 0.05

I_F = 10 mA
V_R = 6 V
R_L = 100 Ω

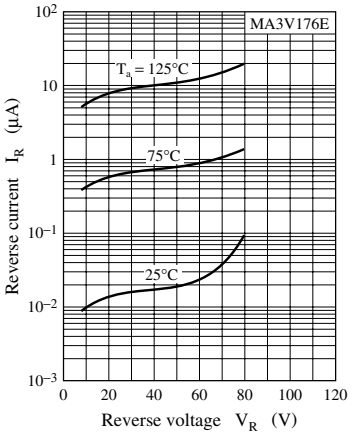
I_F — V_F



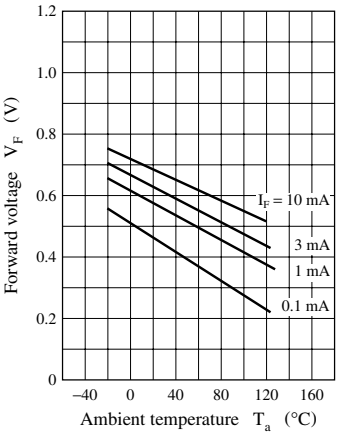
I_R — V_R



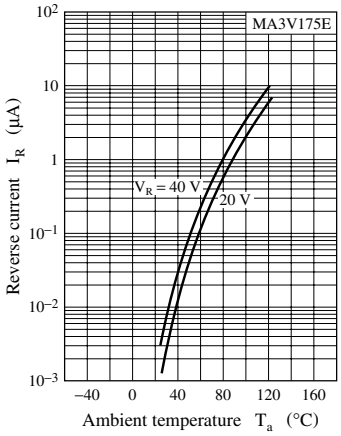
I_R — V_R



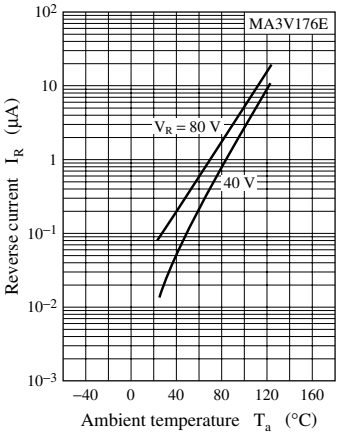
V_F — T_a



I_R — T_a



I_R — T_a



C_t — V_R