

# MA3D652

## Silicon planar type (cathode common)

For high-frequency rectification

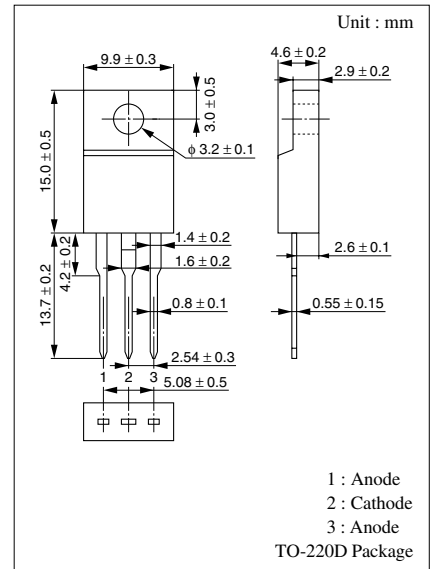
### ■ Features

- Low forward rise voltage  $V_F$
- Fast reverse recovery time  $t_{rr}$
- TO-220D (Full-pack package) with high dielectric breakdown voltage > 5.0 kV
- Easy-to-mount, caused by its V cut lead end

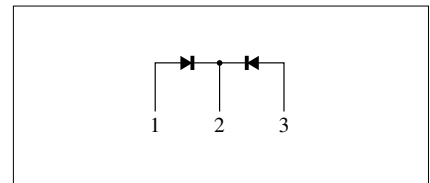
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	200	V
Non-repetitive peak reverse surge voltage	$V_{RSM}$	200	V
Average forward current	$I_{F(AV)}$	20	A
Non-repetitive peak forward surge current*	$I_{FSM}$	100	A
Junction temperature	$T_j$	-40 to +150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +150	$^\circ\text{C}$

Note) \* : Half sine-wave; 10 ms/cycle



### Internal Connection



### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Repetitive peak reverse current	$I_{RRM1}$	$V_{RRM} = 200\text{ V}, T_C = 25^\circ\text{C}$			100	$\mu\text{A}$
	$I_{RRM2}$	$V_{RRM} = 200\text{ V}, T_j = 150^\circ\text{C}$			10	mA
Forward voltage (DC)	$V_F$	$I_F = 10\text{ A}, T_C = 25^\circ\text{C}$			1	V
Reverse recovery time*	$t_{rr}$	$I_F = 1\text{ A}, I_R = 1\text{ A}$			70	ns
Thermal resistance	$R_{th(j-c)}$				3.0	$^\circ\text{C/W}$
	$R_{th(j-a)}$				63	$^\circ\text{C/W}$

- Note) 1. Rated input/output frequency: 10 MHz  
 2. Tightening torque-max. 8 kg × cm  
 3. \*:  $t_{rr}$  measuring circuit

