

# MA3D690

## Silicon planar type

For high-frequency rectification

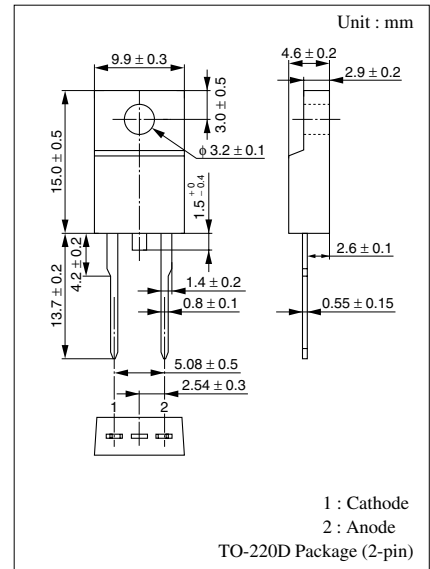
### ■ Features

- 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

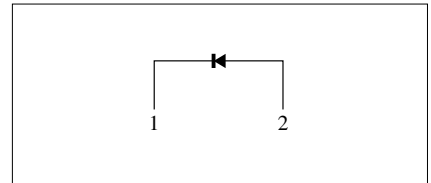
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

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	$I_{F(AV)}$	5	A
Non-repetitive peak forward surge current*	$I_{FSM}$	30	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	$I_{RRM1}$	$V_{RRM} = 200$ V, $T_C = 25^\circ\text{C}$			20	$\mu\text{A}$
	$I_{RRM2}$	$V_{RRM} = 200$ V, $T_j = 150^\circ\text{C}$			2	mA
Forward voltage (DC)	$V_F$	$I_F = 5$ A, $T_C = 25^\circ\text{C}$			0.98	V
Reverse recovery time*	$t_{rr}$	$I_F = 1$ A, $I_R = 1$ A			45	ns
Thermal resistance	$R_{th(j-c)}$				3	$^\circ\text{C/W}$
	$R_{th(j-a)}$				63	$^\circ\text{C/W}$

Note) 1. Rated input/output frequency: 10 MHz

2. Tightening torque-max. 8 kg  $\times$  cm

3. \* :  $t_{rr}$  measuring circuit

