

# MA3D649 (MA6D49)

## Silicon planar type (cathode common)

For high-frequency rectification

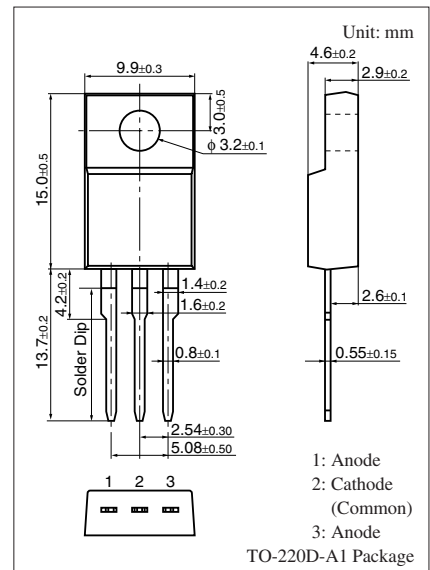
### ■ Features

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

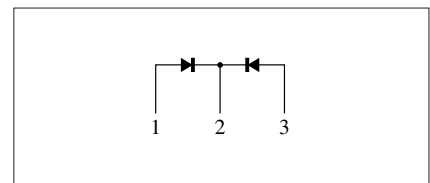
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	200	V
Non-repetitive peak reverse surge voltage	$V_{RSM}$	200	V
Forward current (Average)	$I_{F(AV)}$	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) \*: 50 Hz sine wave 1 cycle (Non-repetitive peak current)



### Internal Connection



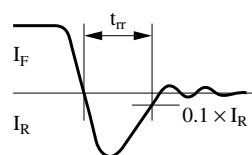
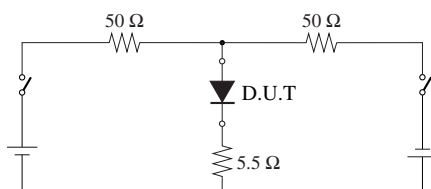
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F = 2.5 \text{ A}$ , $T_C = 25^\circ\text{C}$			0.98	V
Repetitive peak reverse current	$I_{RRM1}$	$V_{RRM} = 200 \text{ V}$ , $T_C = 25^\circ\text{C}$			20	$\mu\text{A}$
	$I_{RRM2}$	$V_{RRM} = 200 \text{ V}$ , $T_j = 150^\circ\text{C}$			2	mA
Reverse recovery time *	$t_{rr}$	$I_F = 1 \text{ A}$ , $I_R = 1 \text{ A}$			30	ns
Thermal resistance (j-c)	$R_{th(j-c)}$				3.0	$^\circ\text{C}/\text{W}$
Thermal resistance (j-a)	$R_{th(j-a)}$				63	$^\circ\text{C}/\text{W}$

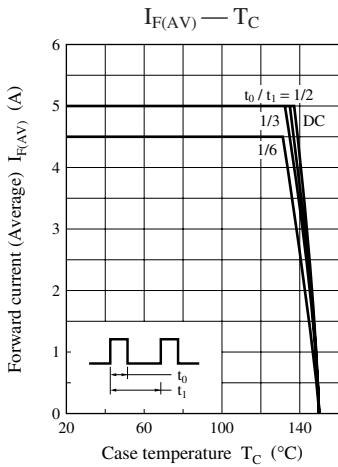
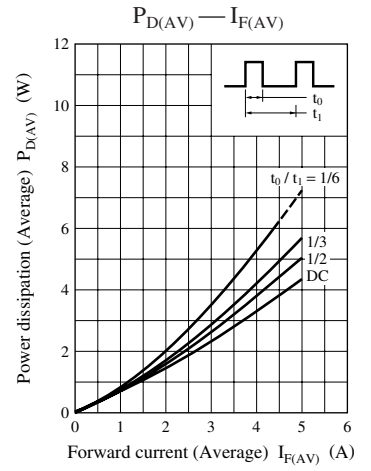
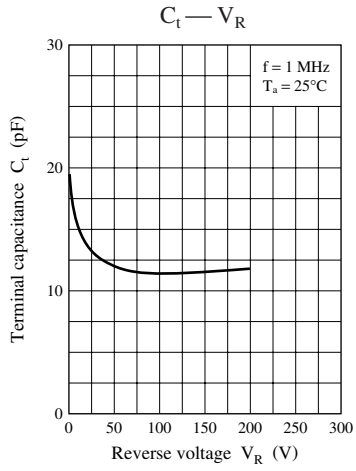
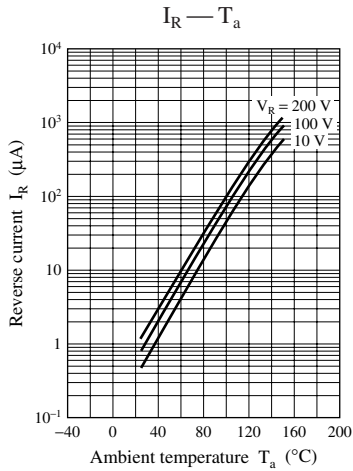
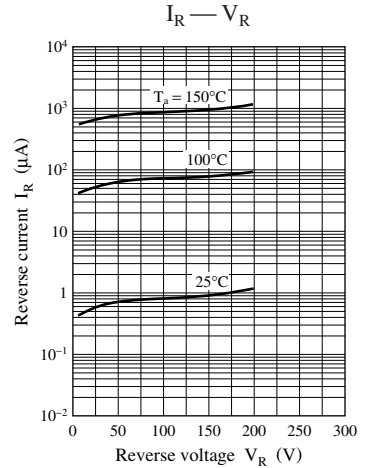
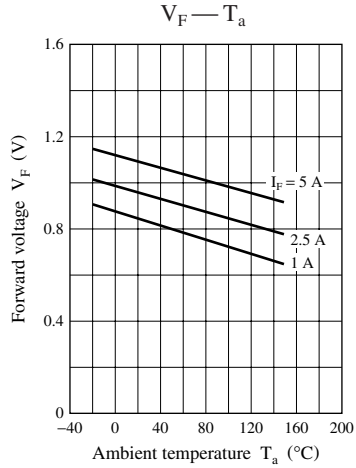
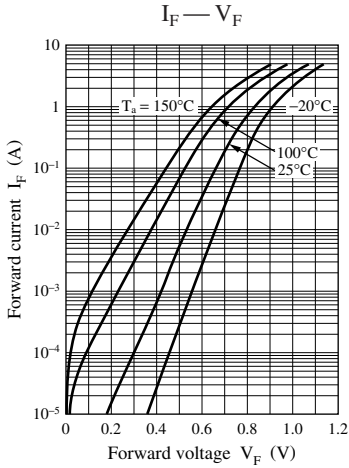
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. Absolute frequency of input and output is 10 MHz.

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



Note) The part number in the parenthesis shows conventional part number.



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