

# MA3D653 (MA6D53)

Silicon planar type (cathode common)

For high-frequency rectification

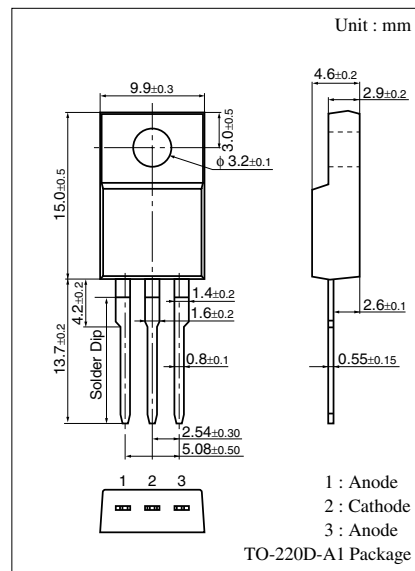
## ■ Features

- 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

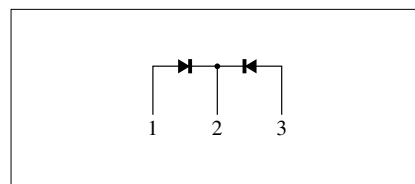
## ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	300	V
Non-repetitive peak reverse surge voltage	$V_{RSM}$	300	V
Average forward current	$I_{F(AV)}$	5	A
Non-repetitive peak forward surge current*	$I_{FSM}$	45	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



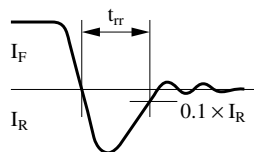
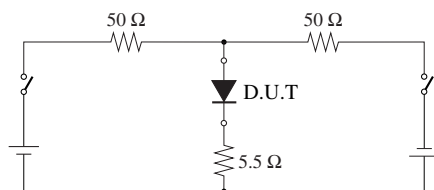
## ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Repetitive peak reverse current	$I_{RRM1}$	$V_{RRM} = 300\text{ V}, T_C = 25^\circ\text{C}$			20	$\mu\text{A}$
	$I_{RRM2}$	$V_{RRM} = 300\text{ V}, T_j = 150^\circ\text{C}$			2	mA
Forward voltage (DC)	$V_F$	$I_F = 2.5\text{ A}, T_C = 25^\circ\text{C}$			0.98	V
Reverse recovery time*	$t_{rr}$	$I_F = 1\text{ A}, I_R = 1\text{ A}$			50	ns
Thermal resistance	$R_{th(j-c)}$				3	$^\circ\text{C/W}$
	$R_{th(j-a)}$				63	$^\circ\text{C/W}$

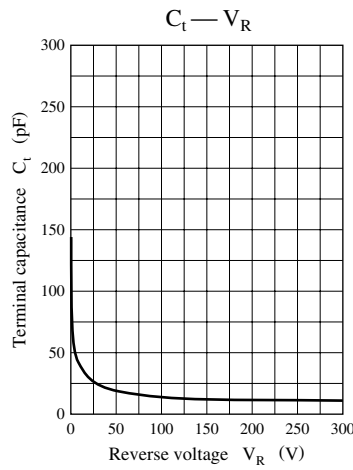
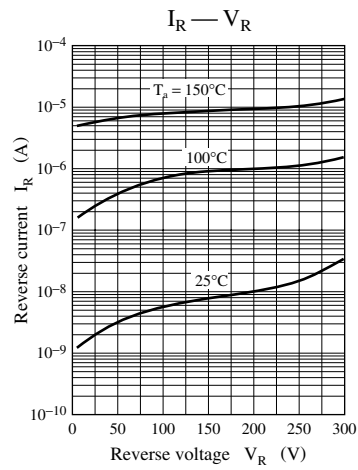
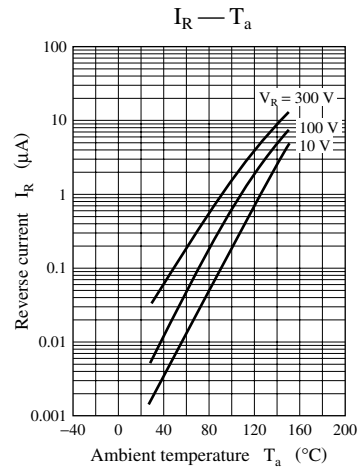
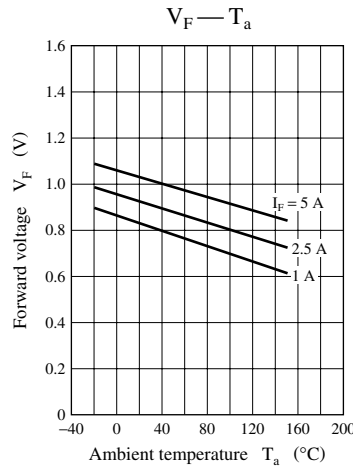
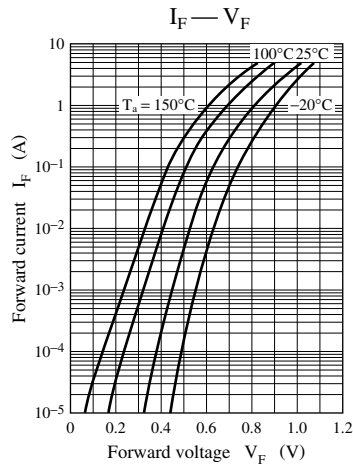
Note) 1. Rated input/output frequency: 10 MHz

2. Tightening torque-max. 8 kg × cm

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



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



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