

MA3D649 (MA6D49)

Silicon planar type (cathode common)

For high-frequency rectification

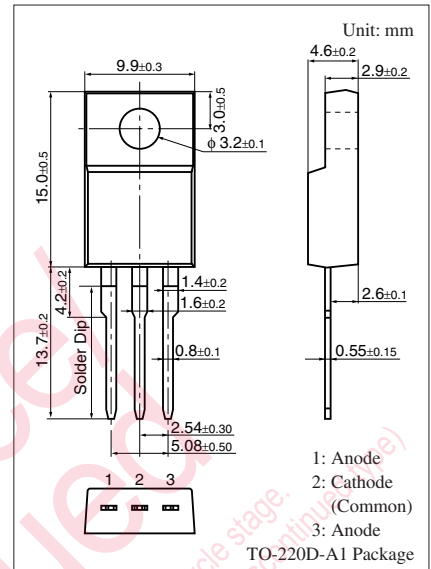
■ Features

- 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

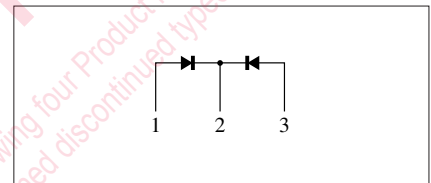
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

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)



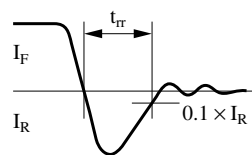
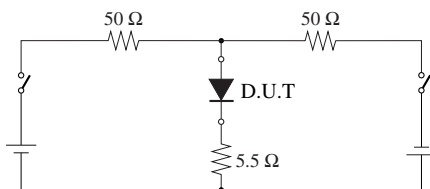
Internal Connection



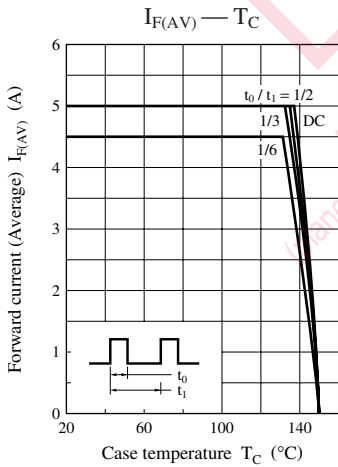
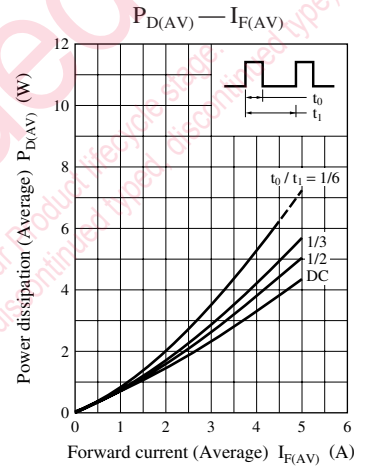
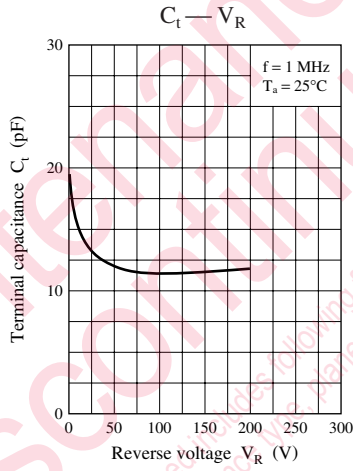
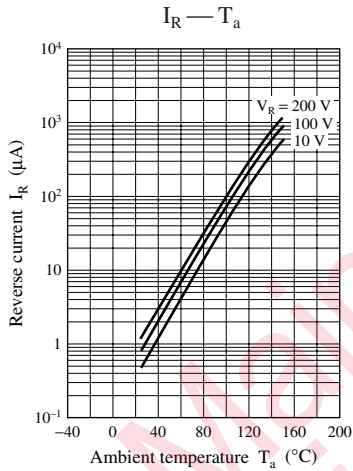
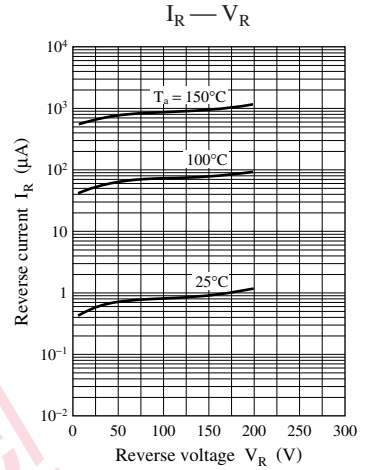
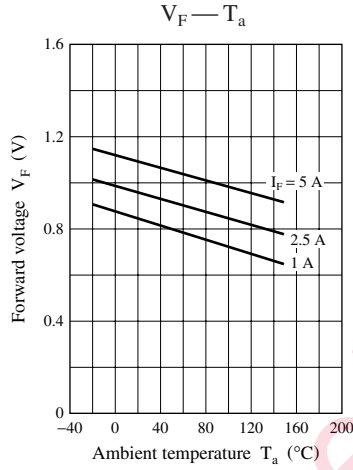
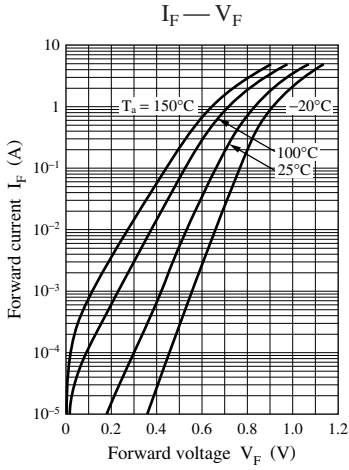
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

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	μA
	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	$^\circ\text{C/W}$
Thermal resistance (j-a)	$R_{th(j-a)}$				63	$^\circ\text{C/W}$

- 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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