

# MA649

## Silicon planer type (cathode common)

For switching

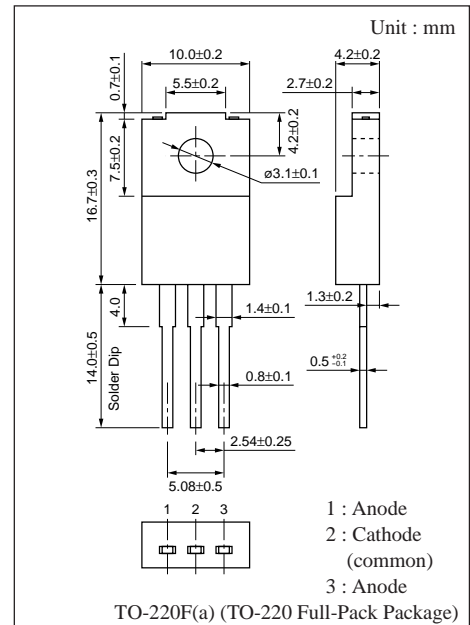
### ■ Features

- High reverse voltage  $V_R$
- Low forward voltage  $V_F$
- Fast reverse recovery time  $t_{rr}$

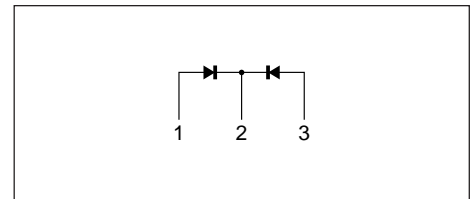
### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	200	V
Non-repetitive peak reverse 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	$^\circ\text{C}$

\* Sine half wave : 10ms/cycle



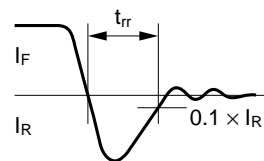
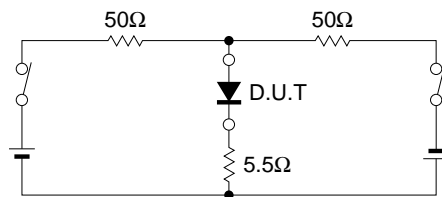
### ■ Internal Connection



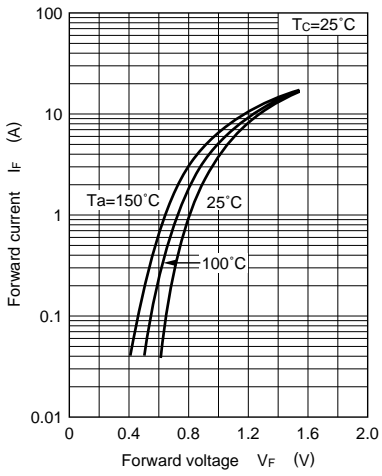
### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Condition	min	typ	max	Unit
Repetitive peak reverse current	$I_{RRM1}$	$V_{RRM} = 200\text{V}, T_C = 25^\circ\text{C}$			100	$\mu\text{A}$
	$I_{RRM2}$	$V_{RRM} = 200\text{V}, T_j = 150^\circ\text{C}$			6	mA
Forward voltage (DC)	$V_F$	$I_F = 2.5\text{A}, T_C = 25^\circ\text{C}$			1	V
Reverse recovery time	$t_{rr}^*$	$I_F = 1\text{A}, I_R = 1\text{A}$			100	ns
Thermal resistance	$R_{th(j-c)}^*$	Flat direct current between junction and case			3	$^\circ\text{C}/\text{W}$
	$R_{th(j-a)}$				63	$^\circ\text{C}/\text{W}$

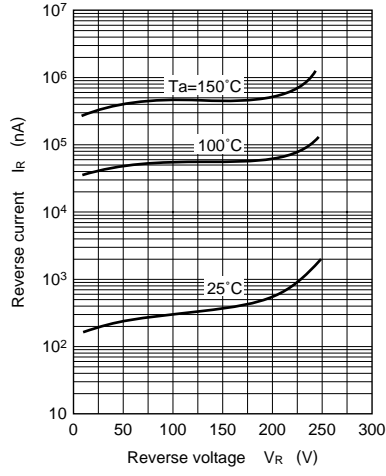
Note 1. Rated input/output frequency : 10MHz  
2. \*  $t_{rr}$  measuring circuit



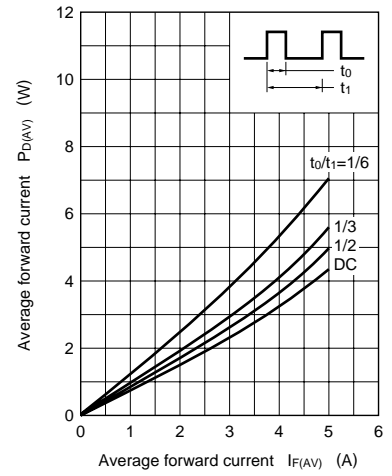
$I_F - V_F$



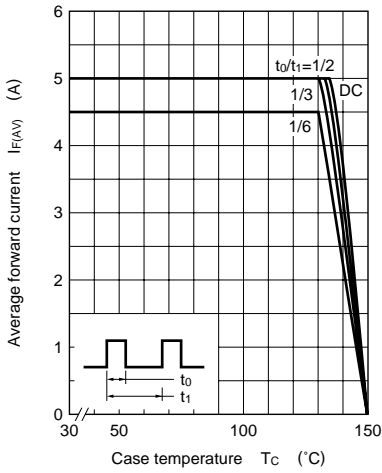
$I_R - V_R$



$P_{D(AV)} - I_{F(AV)}$



$I_{F(AV)} - T_C$



$R_{th(t)} - t$

