

MA653

Silicon planer type (cathode common)

For switching

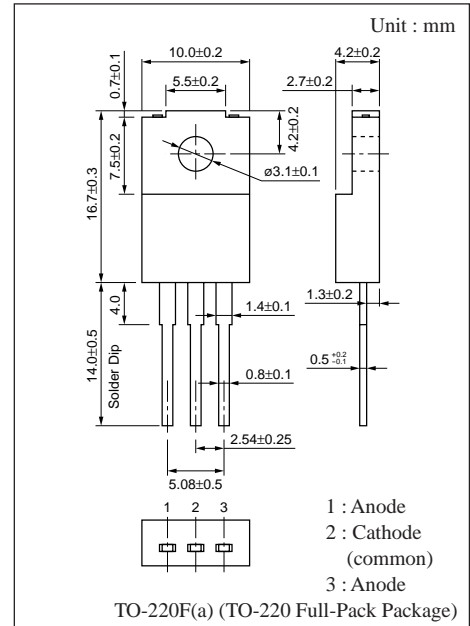
■ Features

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

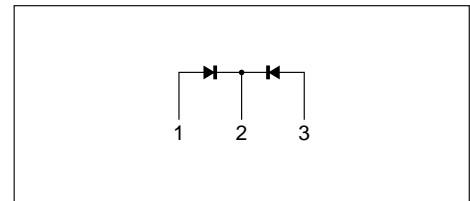
■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	300	V
Non-repetitive peak reverse 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	$^\circ\text{C}$

* Sine half wave : 10ms/cycle



■ Internal Connection

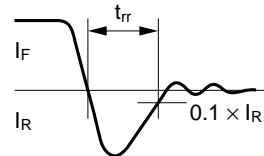
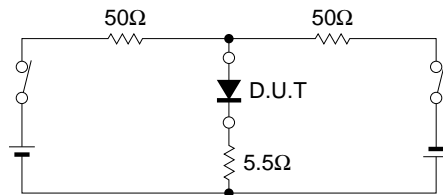


■ Electrical Characteristics ($T_a = 25^\circ\text{C}$)

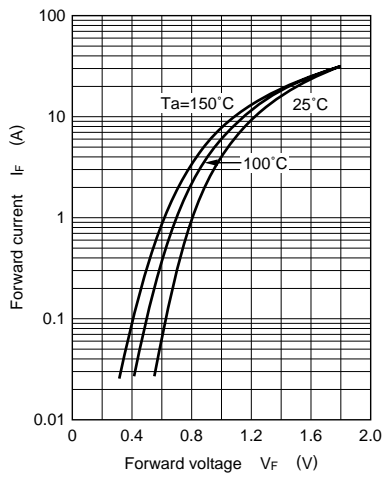
Parameter	Symbol	Condition	min	typ	max	Unit
Repetitive peak reverse current	I_{RRM1}	$V_{RRM} = 300\text{V}, T_C = 25^\circ\text{C}$			100	μA
	I_{RRM2}	$V_{RRM} = 300\text{V}, T_j = 150^\circ\text{C}$			6	mA
Forward voltage (DC)	V_F	$I_F = 2.5\text{A}, T_C = 25^\circ\text{C}$			1	V
Reverse recovery time	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

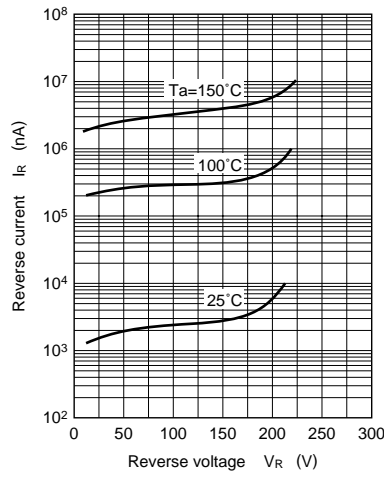
2. * t_{rr} measuring circuit



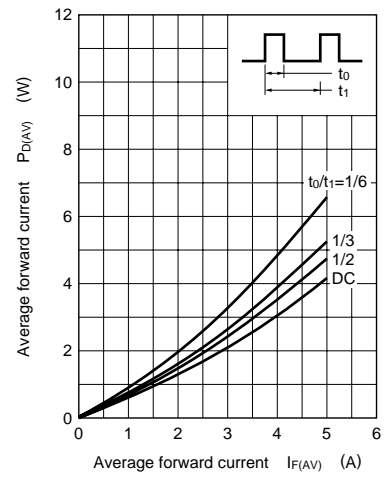
$I_F - V_F$



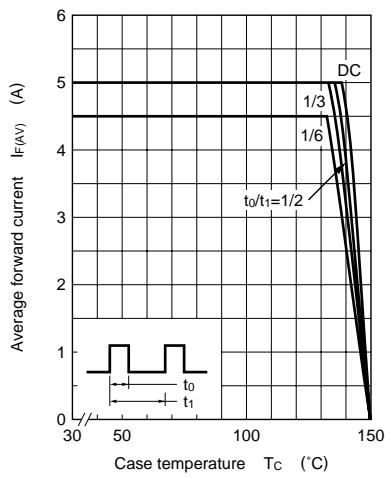
$I_R - V_R$



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



$I_{F(AV)} - T_C$



$R_{th(t)} - t$

