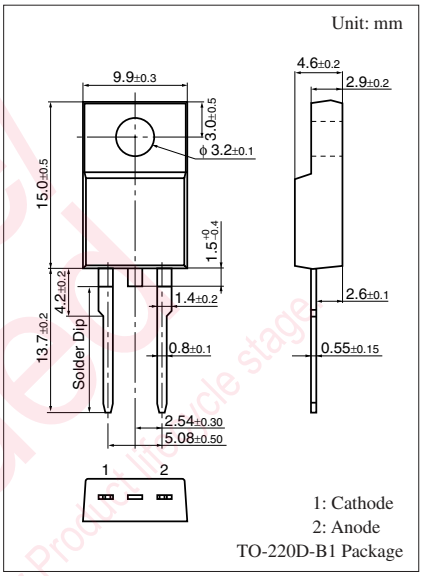
MA3D690 (MA6D90)

Silicon planar type

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 $T_a = 25°C$

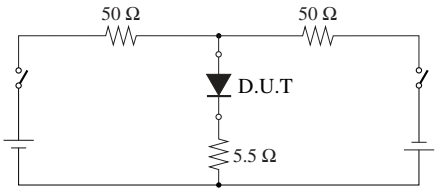
Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	200	V
Non-repetitive peak reverse surge voltage	V_{RSM}	200	V
Forward current (Average)	$I_{F(AV)}$	5	A
Non-repetitive peak forward surge current *	I_{FSM}	30	A
Junction temperature	T_j	−40 to +150	°C
Storage temperature	T_{stg}	−40 to +150	°C

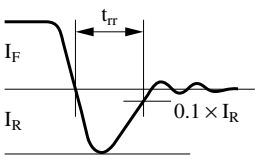
Note) *: 50 Hz sine wave 1 cycle (Non-repetitive peak current)

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 5 A, T_C = 25°C			0.98	V
Repetitive peak reverse current	I_{RRM1}	V_{RRM} = 200 V, T_C = 25°C			20	μA
	I_{RRM2}	V_{RRM} = 200 V, T_j = 150°C			2	mA
Reverse recovery time *	t_{rr}	I_F = 1 A, I_R = 1 A			45	ns
Thermal resistance (j-c)	$R_{th(j-c)}$				3.0	°C/W
Thermal resistance (j-a)	$R_{th(j-a)}$				63	°C/W

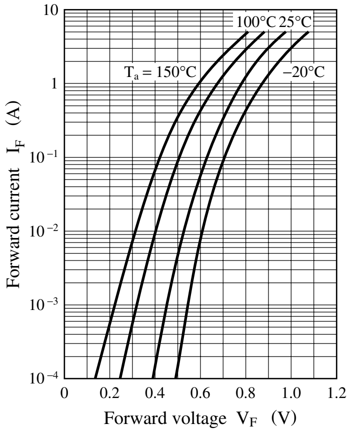
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.
2. Absolute frequency of input and output is 10 MHz.
3. *: t_{rr} measurement circuit



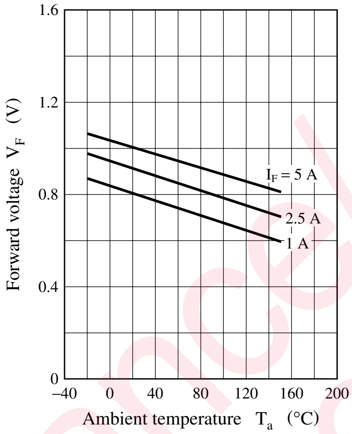


Note) The part number in the parenthesis shows conventional part number.

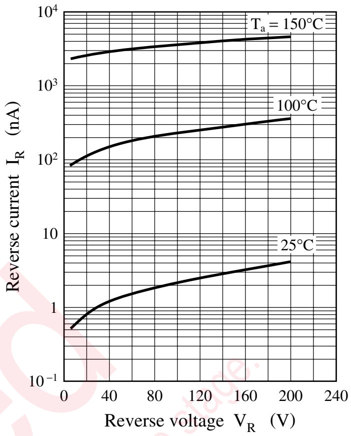
I_F — V_F



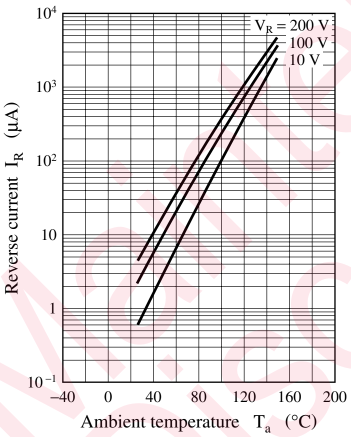
V_F — T_a



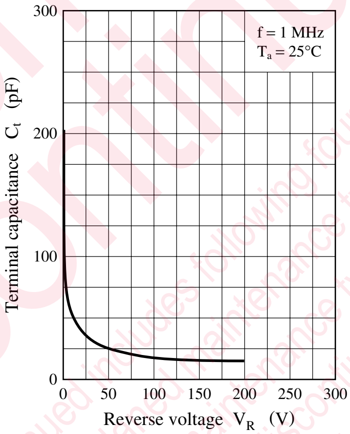
I_R — V_R



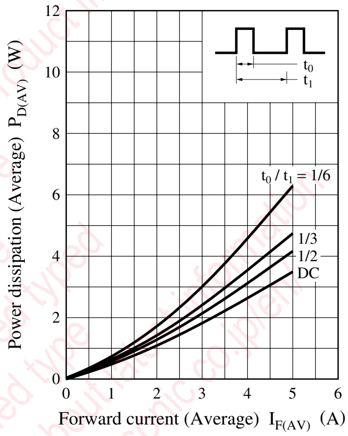
I_R — T_a



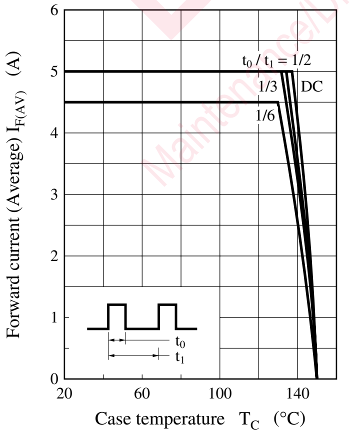
C_t — V_R



$P_{D(AV)}$ — $I_{F(AV)}$



$I_{F(AV)}$ — T_C



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