

# Schottky barrier diode

## RB085T-40

●Applications

Switching power supply

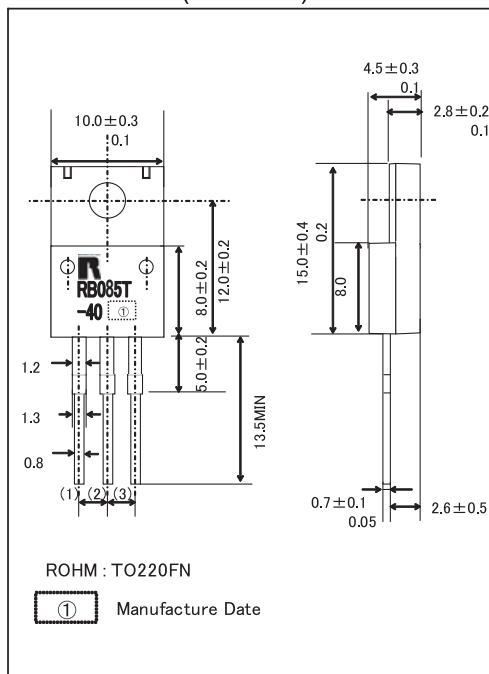
●Features

- 1) Cathode common type. (TO-220)
- 2) Low  $I_R$
- 3) High reliability

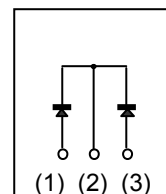
●Construction

Silicon epitaxial planer

●Dimensions (Unit : mm)



●Structure



●Absolute maximum ratings (Ta=25°C)

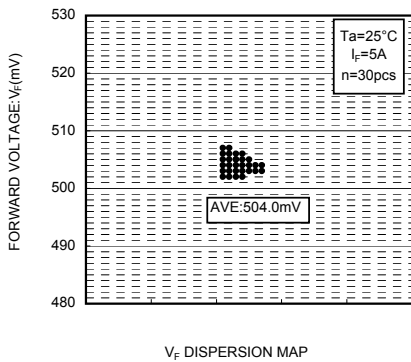
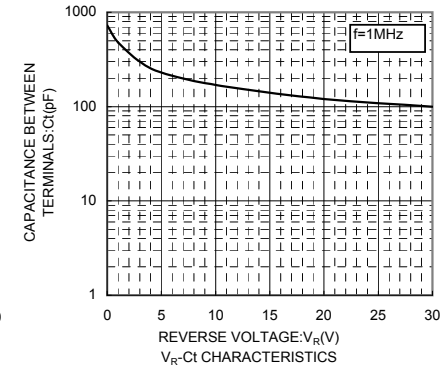
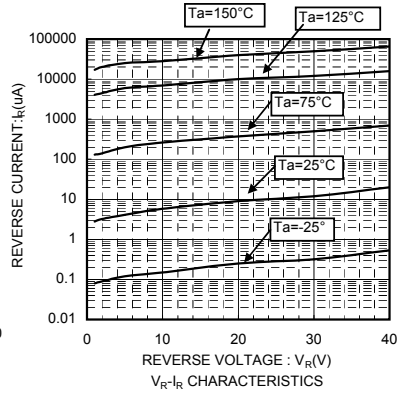
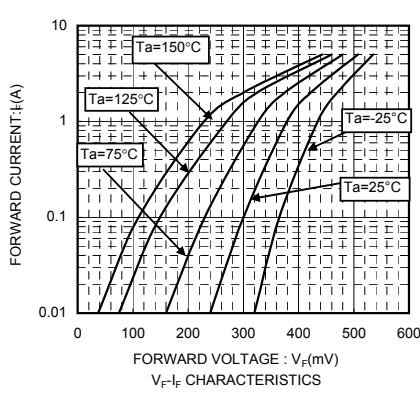
Parameter	Symbol	Limits	Unit
Reverse voltage (repetitive peak)	$V_{RM}$	45	V
Reverse voltage (DC)	$V_R$	40	V
Average rectified forward current (*1)	$I_o$	10	A
Forward current surge peak (60Hz / 1cyc) (*1)	$I_{FSM}$	100	A
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-40 to +150	°C

(\*1)Business frequencies, Rating of R-load, 1/2  $I_o$  per diode,  $T_c=132^\circ\text{C}$

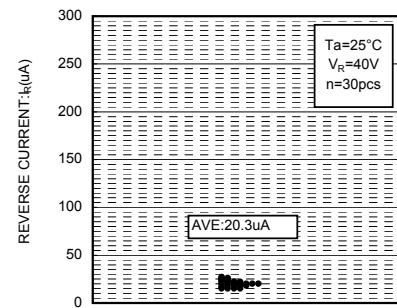
●Electrical characteristic (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	$V_F$	-	-	0.55	V	$I_F=5\text{A}$
Reverse current	$I_R$	-	-	200	$\mu\text{A}$	$V_R=40\text{V}$
Thermal impedance	$\theta_{jc}$	-	-	2.5	°C/W	junction to case

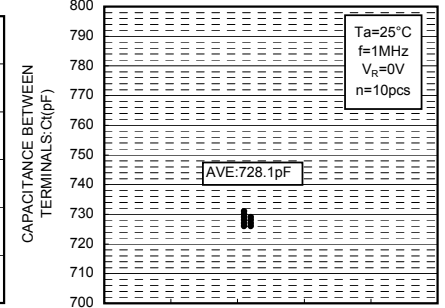
●Electrical characteristic curves



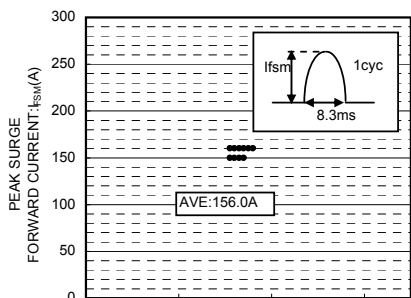
$V_f$  DISPERSION MAP



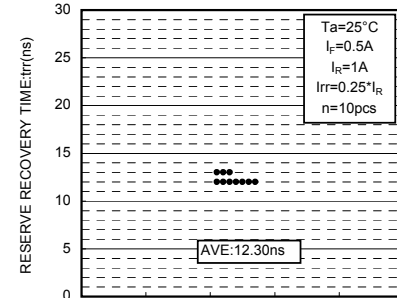
$I_r$  DISPERSION MAP



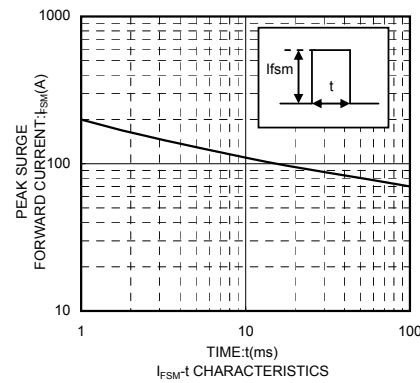
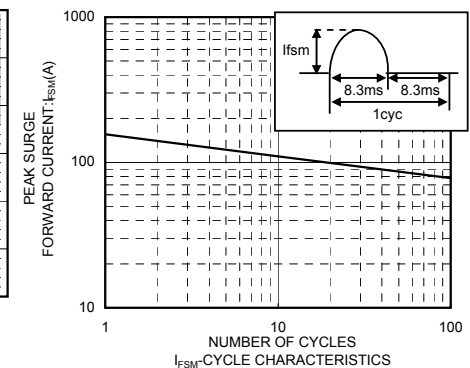
$C_t$  DISPERSION MAP



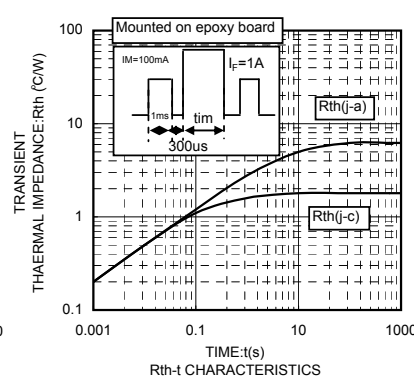
$I_{FSM}$  DISPERSION MAP



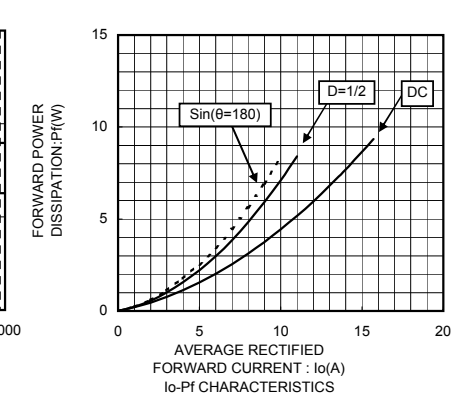
$t_{rr}$  DISPERSION MAP



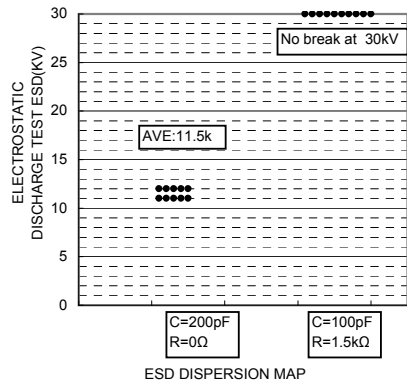
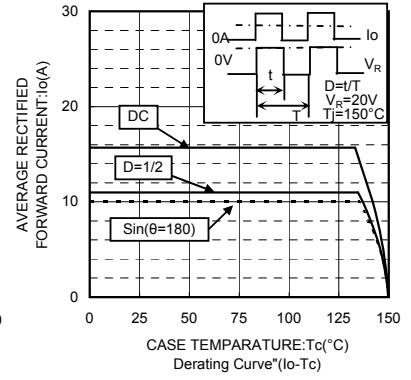
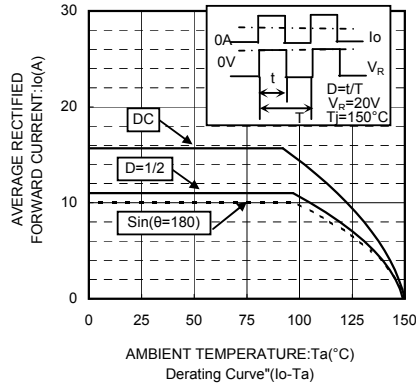
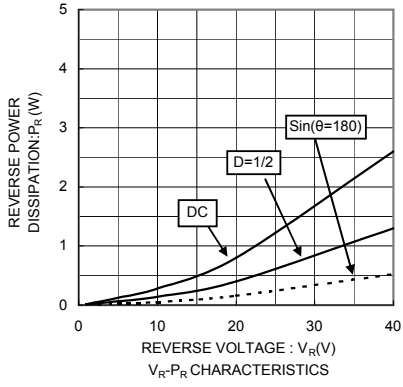
$I_{FSM}-t$  CHARACTERISTICS



$R_{th}-t$  CHARACTERISTICS



$I_o-P_f$  CHARACTERISTICS



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