TAIWAN SEMICONDUCTOR

RB706F-40

Low V_F SMD Schottky Barrier Diode

Small Signal

SOT-323

Features

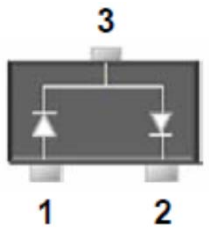
- ◇ Low reverse current, high reliability
- ◇ Surface device type mounting
- ◇ Moisture sensitivity level 1
- ◇ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ◇ Pb free version and RoHS compliant
- ◇ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

Pb-Free

RoHS COMPLIANT

Mechanical Data

- ◇ Case : SOT-323 small outline plastic package
- ◇ Terminal : Matte tin plated, lead free, solderable per MIL-STD-202, method 208 guaranteed
- ◇ High temperature soldering guaranteed : 260°C/10s
- ◇ Polarity : Indicated by cathode band
- ◇ Weight : 5 ± 0.5 mg
- ◇ Marking Code : ZA



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	V_{RRM}	45	V
Reverse Voltage	V_R	40	V
Mean Forward Current	I_O	30	mA
Non-Repetitive Peak Forward Surge Current (t = 8.3 ms)	I_{FSM}	0.2	A
Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	500	°C/W
Junction Temperature	T_J	125	°C
Storage Temperature Range	T_{STG}	-55 to + 125	°C

Electrical Characteristics

Parameter		Symbol	Min	Max	Units
Reverse Breakdown Voltage	I_R = 10 μA	$V_{(BR)}$	45	-	V
Forward Voltage	I_F = 1 mA	V_F	-	0.37	V
Reverse Leakage Current	V_R = 10 V	I_R	-	1	μA
Junction Capacitance	V_R = 1 V , f = 1.0 MHz	C_J	2 (TYP)		pF

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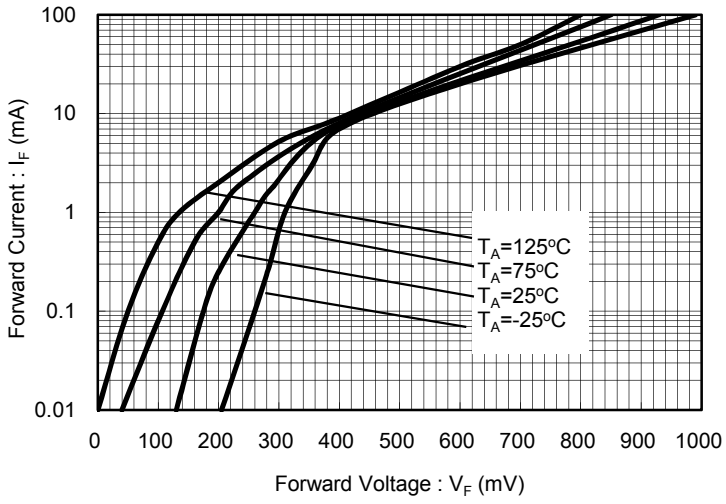
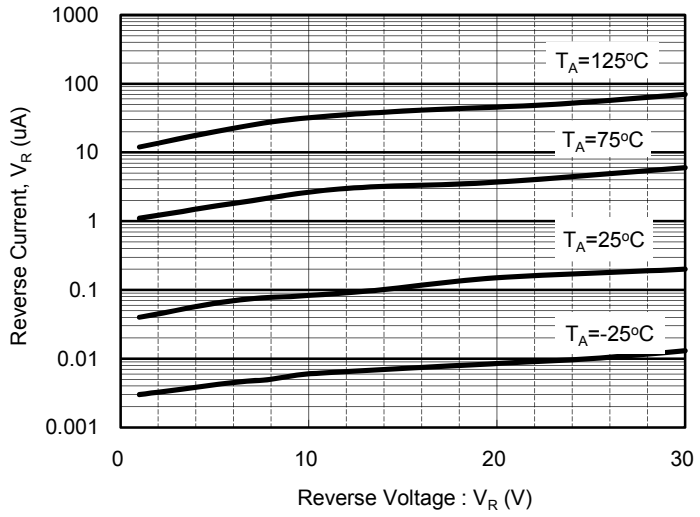
RATINGS AND CHARACTERISTICS CURVES

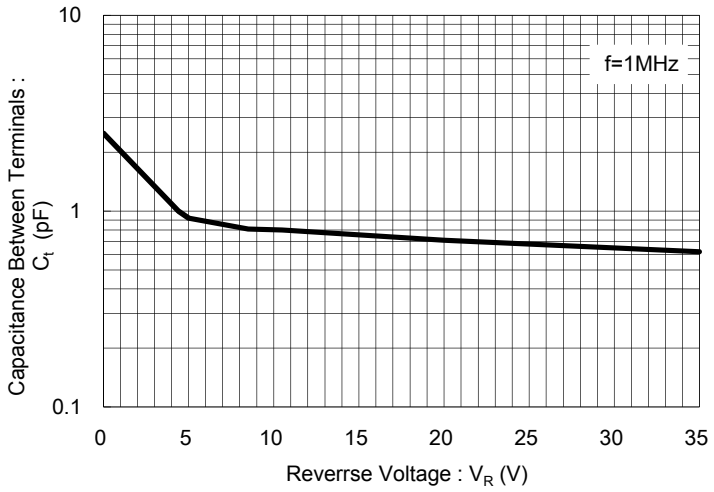
V_F - I_F Characteristics

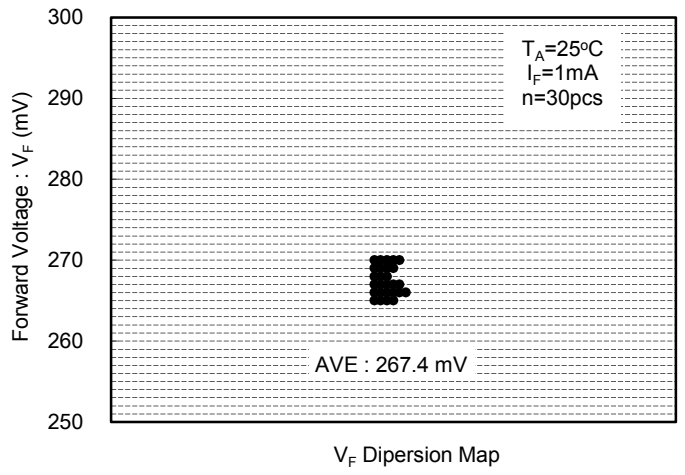


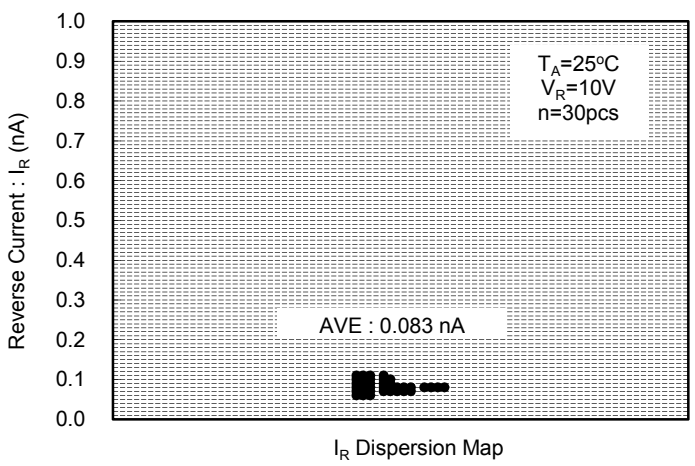
V_R - I_R Characteristics

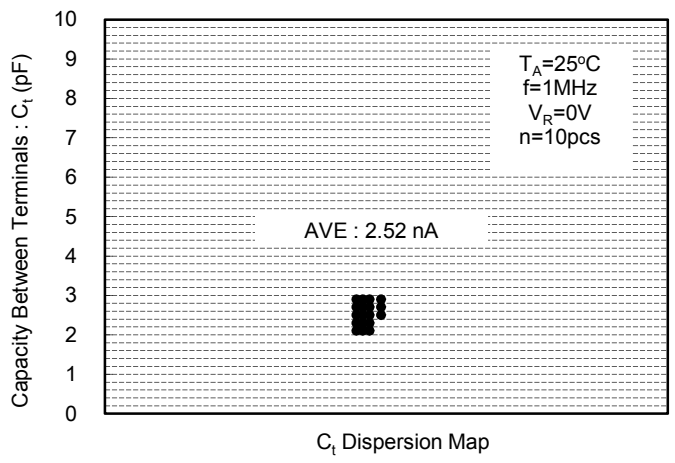


V_R - C_t Characteristics









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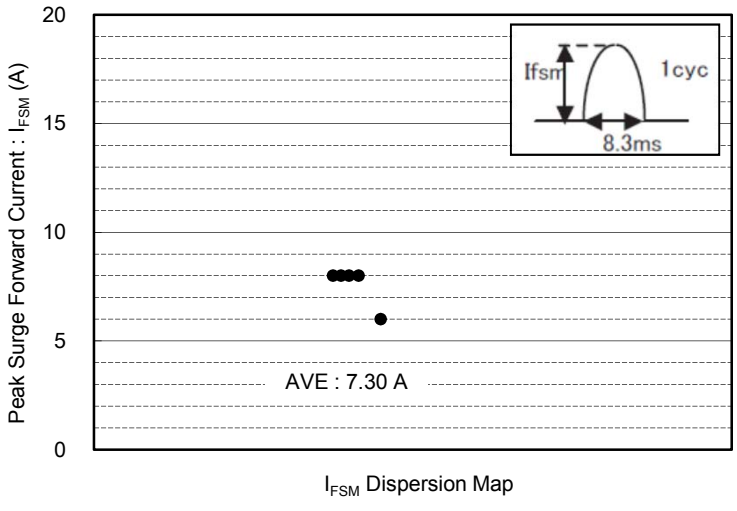
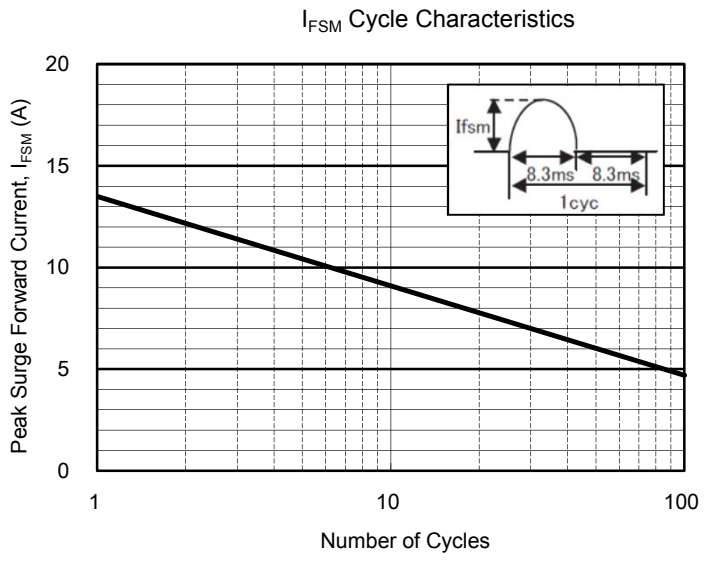
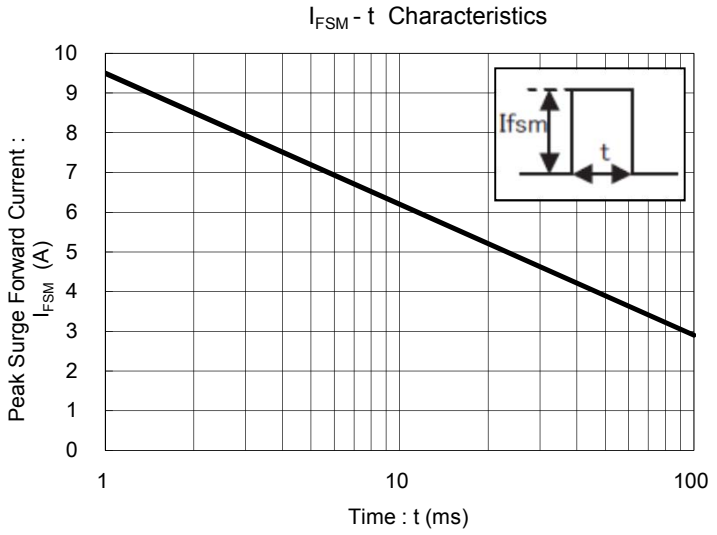
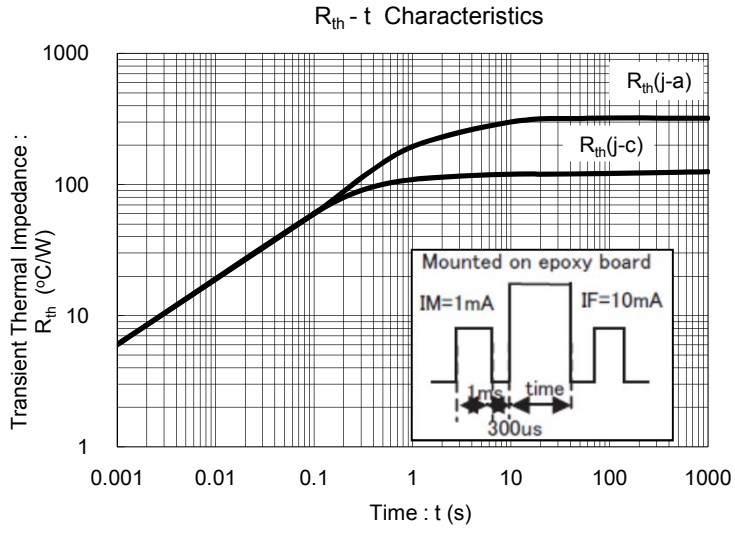
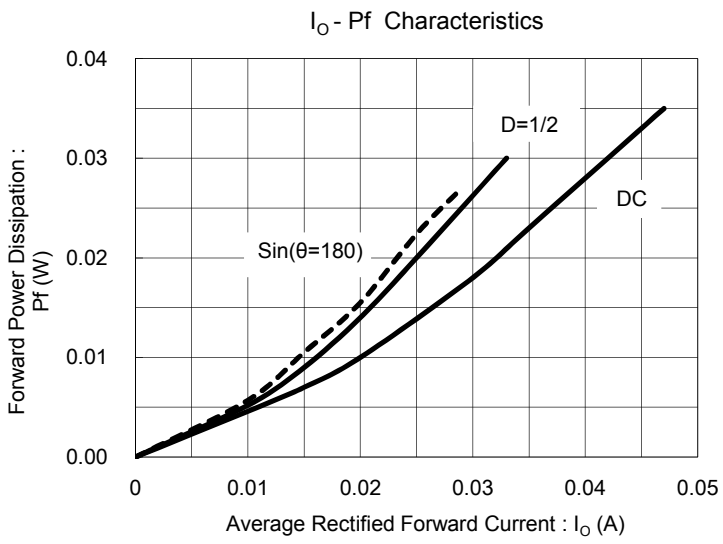
RATINGS AND CHARACTERISTICS CURVES

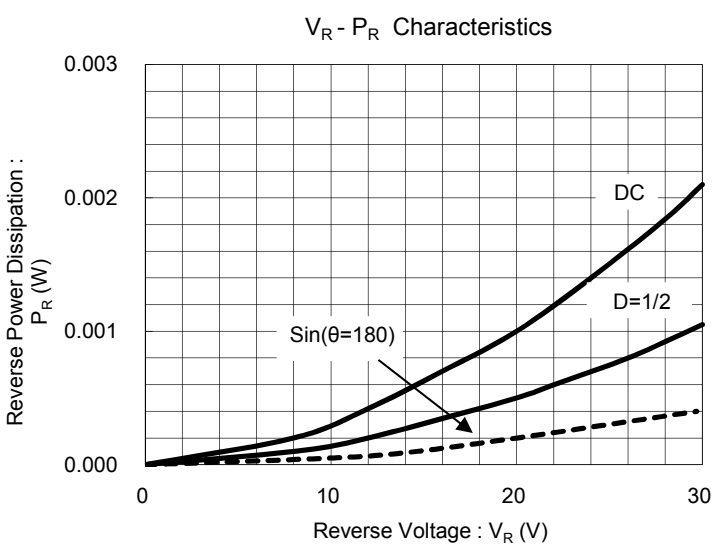












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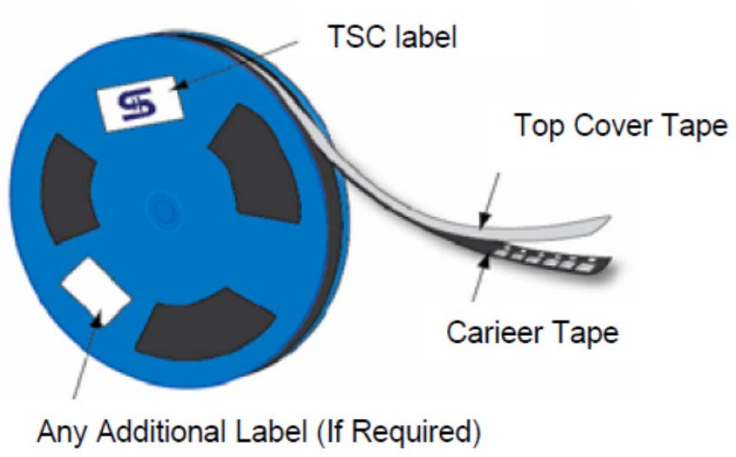
Ordering information (Detail, example)

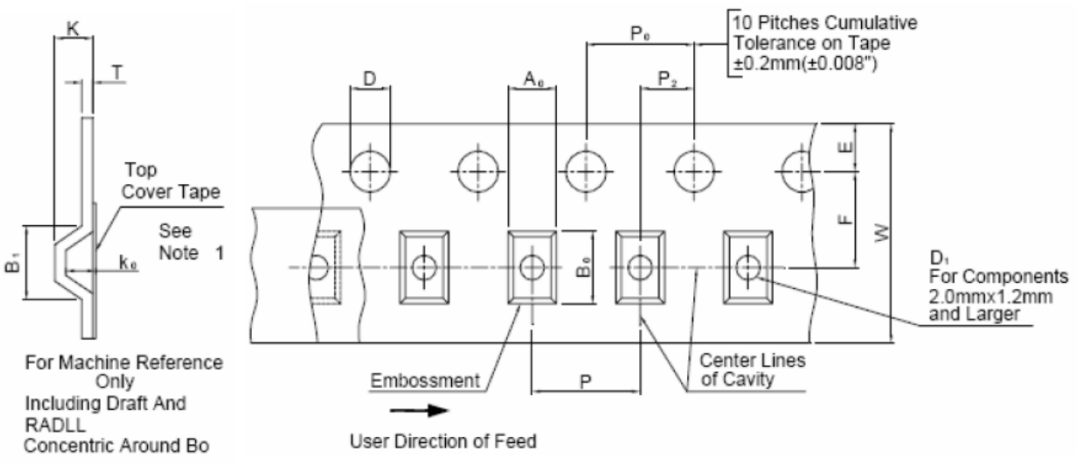
Part No.	Package	Packing	Packing code	Packing code (Green)	Marking	Manufacture code
RB706F-40	SOT-323	3K / 7" Reel	RF	RFG	ZA	(Note)
		8K / 7" Reel	RV	RVG		
RB706F-40	SOT-323	3K / 7" Reel	RF	RFG	ZA	

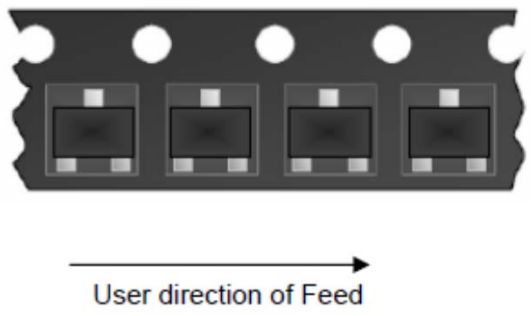
Note : Manufacture special control, if empty means no special control requirement.

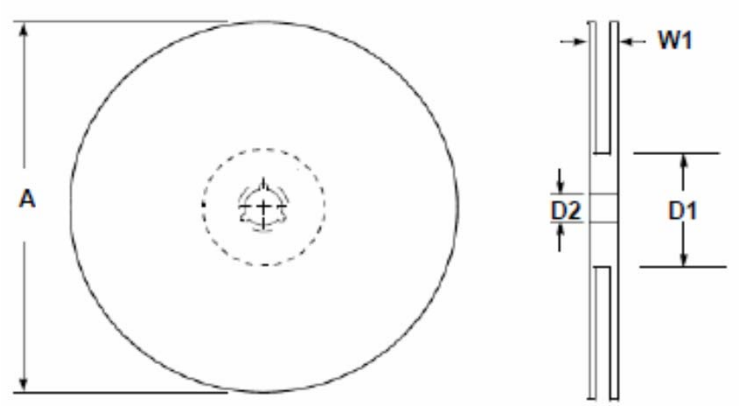
Tape & Reel specification



Item	Symbol	Dimension(mm)
Carrier depth	K	2.40 Max.
Sprocket hole	D	1.50 ± 0.10
Reel outside diameter	A	178 ± 1
Reel inner diameter	D1	50 Min.
Feed hole width	D2	13.0 ± 0.5
Sprocket hole position	E	1.75 ±0.10
Punch hole position	F	3.50 ±0.05
Sprocket hole pitch	P0	4.00 ±0.10
Embossment center	P1	2.00 ±0.10
Overall tape thickness	T	0.6 Max.
Tape width	W	8.30 Max.
Reel width	W1	14.4 Max.







Note 1 : A_0, B_0, and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max. The component cannot rote more than 10^o within the determined cavity.

Note 2 : If B_1 exceeds 4.2mm(0.165") for 8 mm embossed tape, the tape may not feed through all tape feeders.

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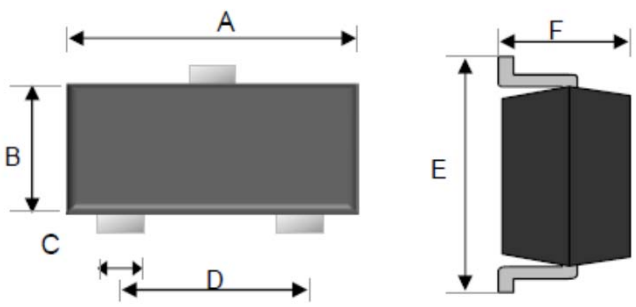
Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.07	0.09
B	1.15	1.35	0.05	0.05
C	0.15	0.40	0.01	0.02
D	1.20	1.40	0.05	0.06
E	2.00	2.45	0.08	0.10
F	0.80	1.10	0.03	0.04

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