

## 30mA, 45V Schottky Barrier Diode

### FEATURES

- Low reverse current, high reliability
- Surface device type mounting
- High temperature soldering guaranteed : 260°C/10s
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- General-purpose switching and amplification

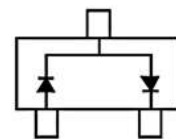
### MECHANICAL DATA

- Case: SOT-323
- Terminal : Matte tin plated, lead free, solderable per MIL-STD-202, method 208 guaranteed
- Weight: 5.00mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	30	mA
$V_{RRM}$	45	V
$I_{FSM}$	200	mA
$T_{J\ MAX}$	125	°C
Package	SOT-323	



SOT-323



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	$V_{RRM}$	45	V
Reverse Voltage	$V_R$	40	V
Forward current	$I_F$	30	mA
Non-Repetitive peak forward surge current (t = 8.3ms)	$I_{FSM}$	200	mA
Junction temperature	$T_J$	125	°C
Storage temperature	$T_{STG}$	-55 to +125	°C

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	500	°C/W

**ELECTRICAL SPECIFICATIONS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$I_R = 10\mu\text{A}$	$V_{BR}$	45	-	-	V
Forward Voltage	$I_F = 1\text{mA}$	$V_F$	-	-	370	mV
Reverse current	$V_R = 10\text{V}$	$I_R$	-	-	1	$\mu\text{A}$
Junction capacitance	$V_R = 1\text{V}, f = 1.0\text{MHz}$	$C_J$	-	2	-	pF

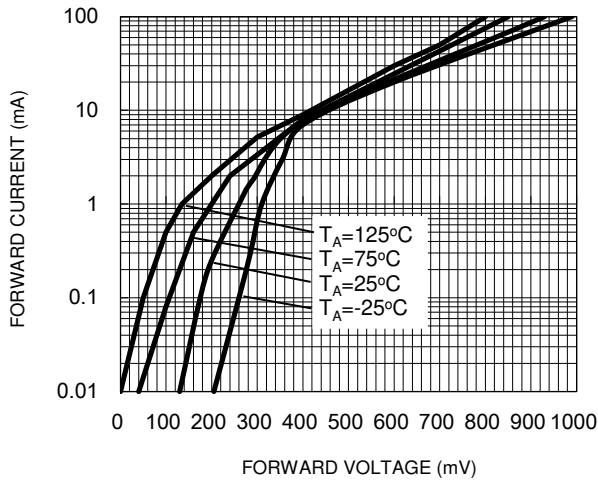
**ORDERING AND MARKING INFORMATION**

ORDERING CODE	MARKING	PACKAGE	PACKING
RB706F-40 RFG	ZA	SOT-323	3K / 7" Reel

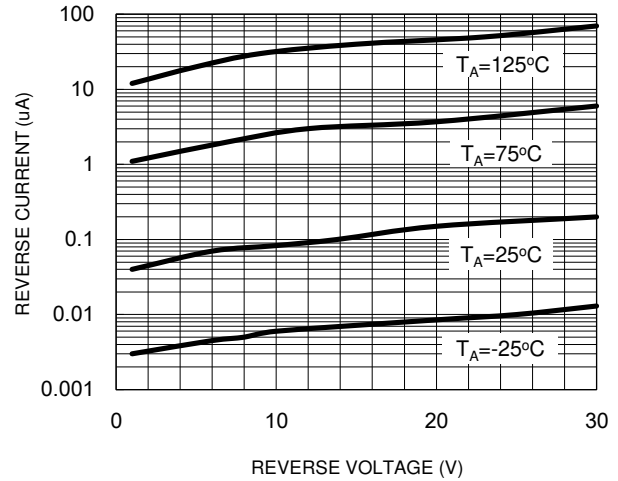
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

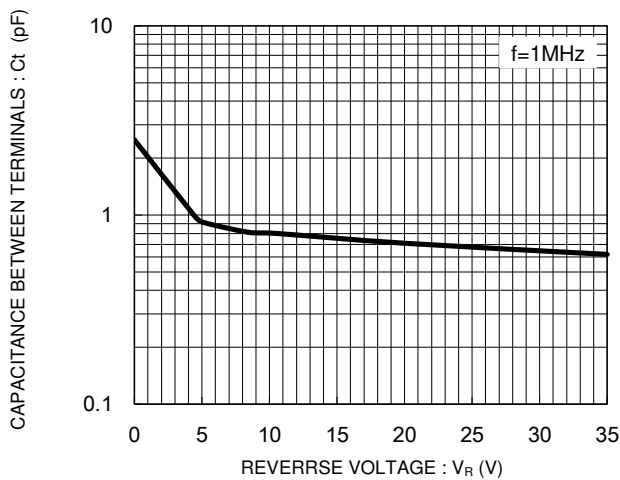
**Fig.1  $V_F - I_F$  Characteristics**



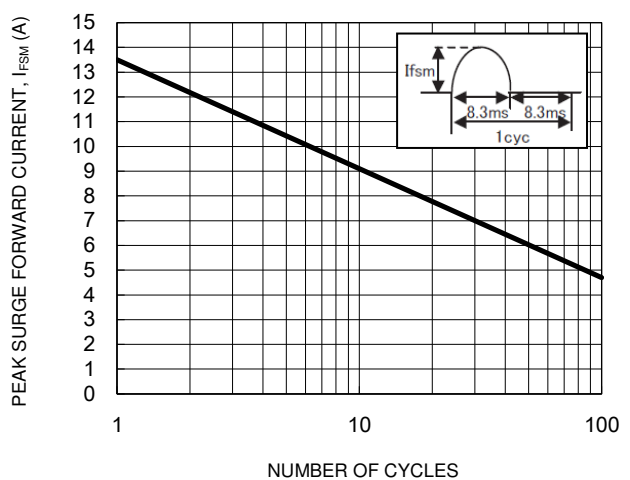
**Fig.2  $V_R - I_R$  Characteristics**



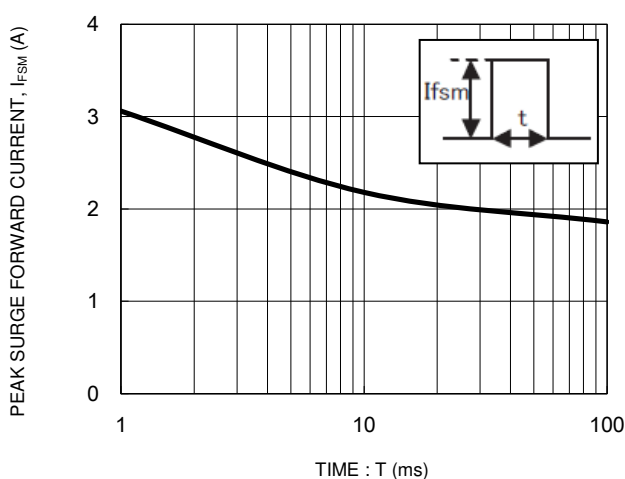
**Fig.3  $V_R - C_t$  Characteristics**



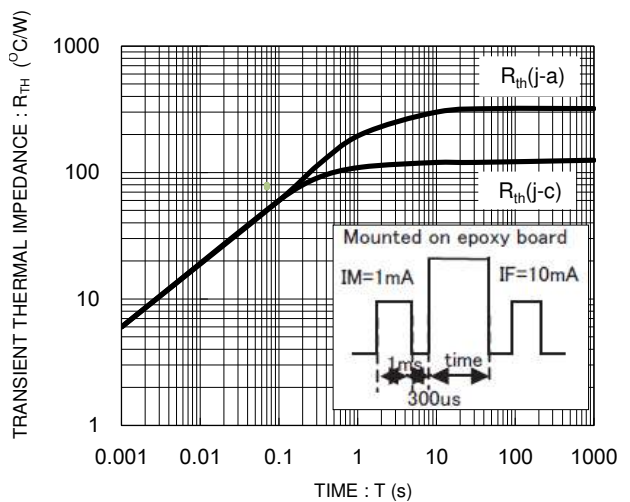
**Fig.4  $I_{FSM}$  Cycle Characteristics**



**Fig.5  $I_{FSM} - t$  Characteristics**



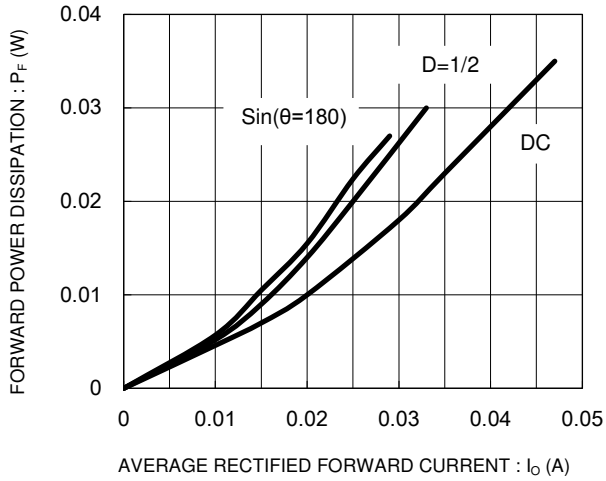
**Fig.6  $R_{th} - t$  Characteristics**



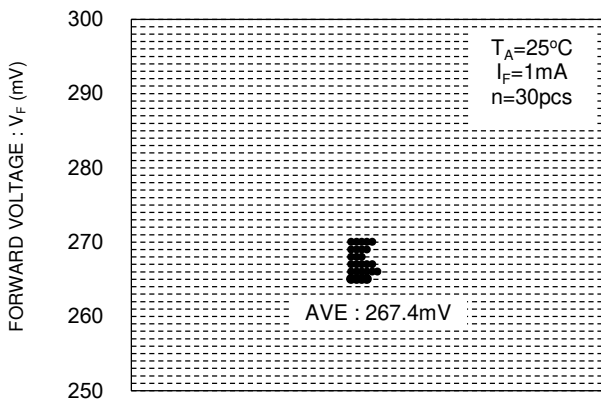
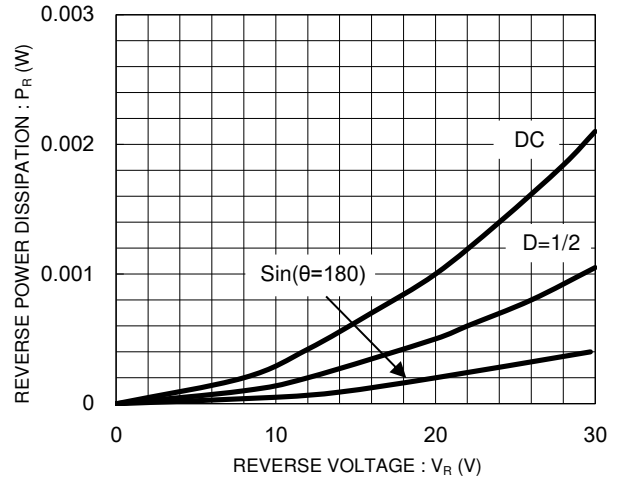
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

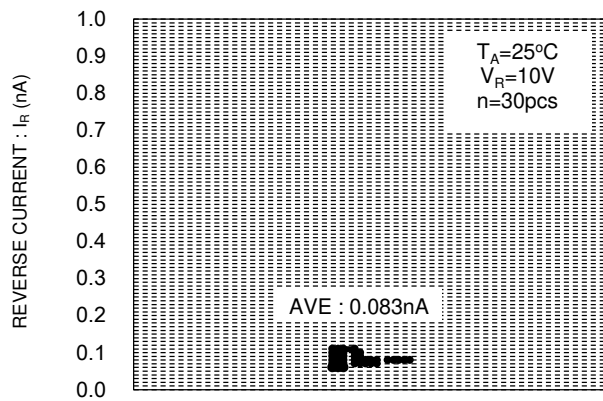
**Fig.7  $I_o - P_F$  Characteristics**



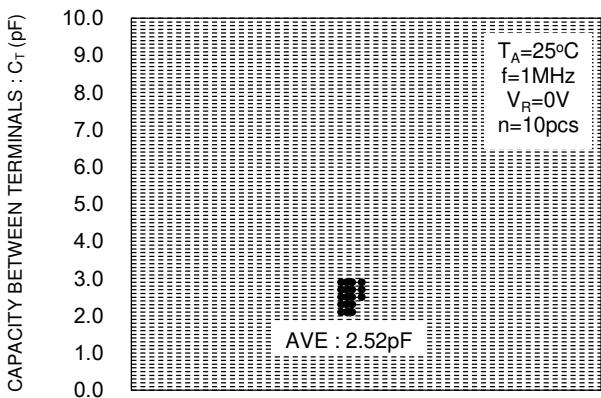
**Fig.8  $V_R - P_R$  Characteristics**



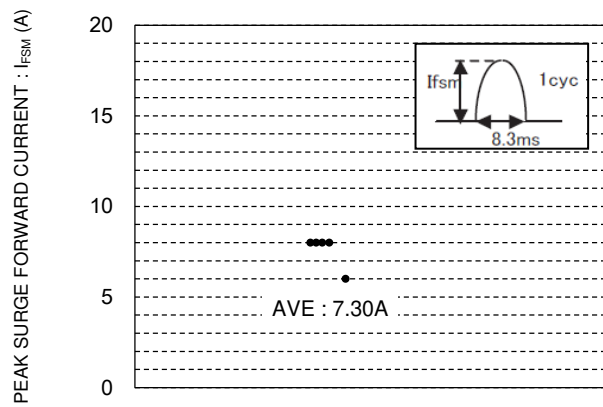
$V_F$  DISPERSION MAP



$I_R$  DISPERSION MAP



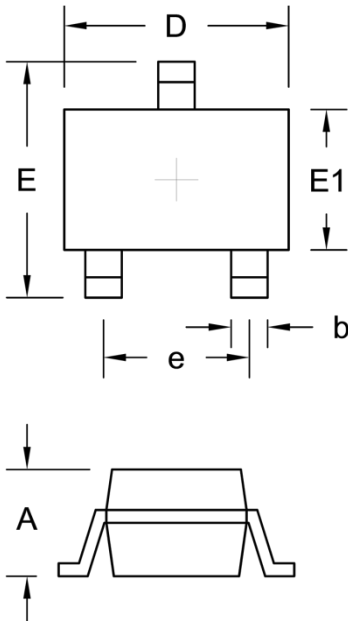
$C_T$  DISPERSION MAP



$I_{FSM}$  DISPERSION MAP

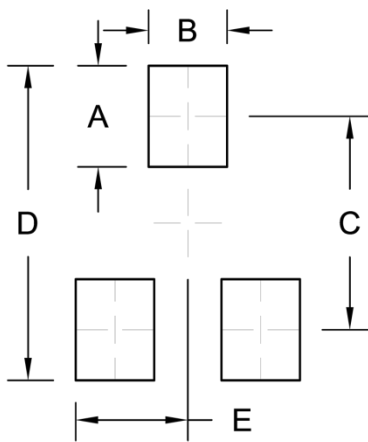
**PACKAGE OUTLINE DIMENSIONS**

SOT-323



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
b	0.25	0.40	0.010	0.016
D	1.80	2.20	0.071	0.087
E	1.80	2.40	0.071	0.094
E1	1.15	1.35	0.045	0.053
e	1.30 (TYP)		0.051 (TYP)	

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	0.90	0.035
B	0.70	0.028
C	1.90	0.075
D	2.80	0.110
E	1.00	0.039

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