

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

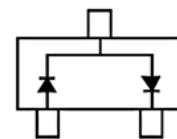
MECHANICAL DATA

- 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	μA
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

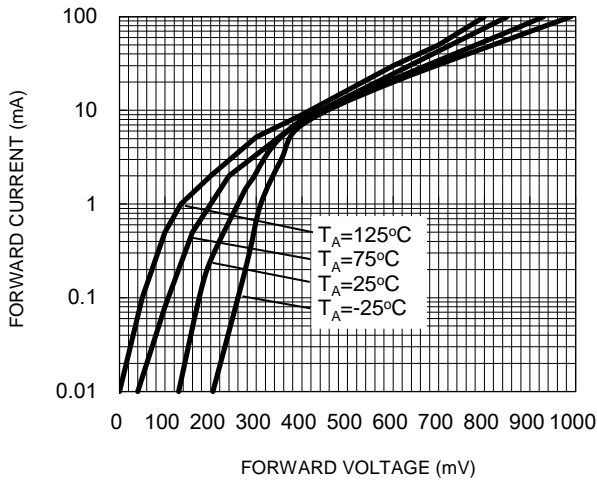


Fig.2 $V_R - I_R$ Characteristics

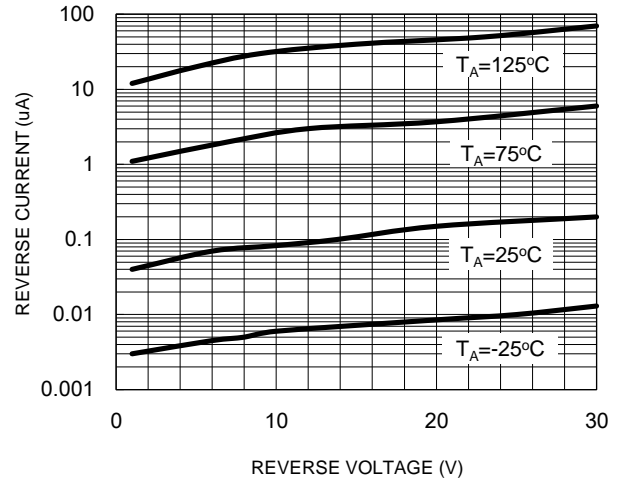


Fig.3 $V_R - C_t$ Characteristics

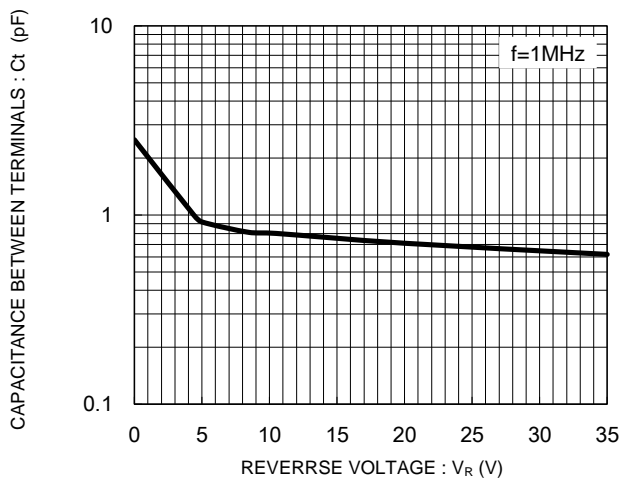


Fig.4 I_{FSM} Cycle Characteristics

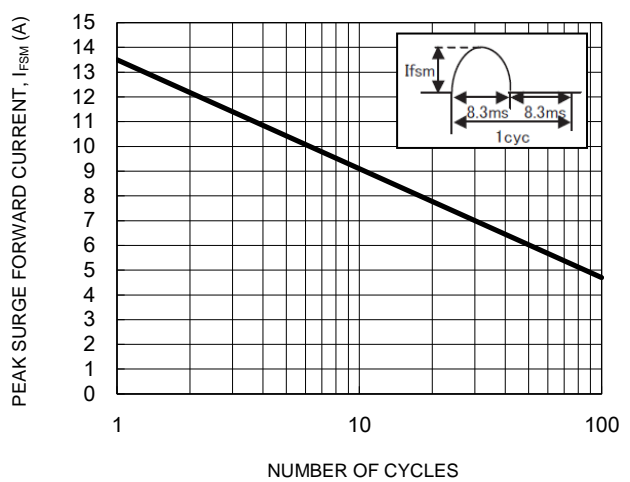


Fig.5 $I_{FSM} - t$ Characteristics

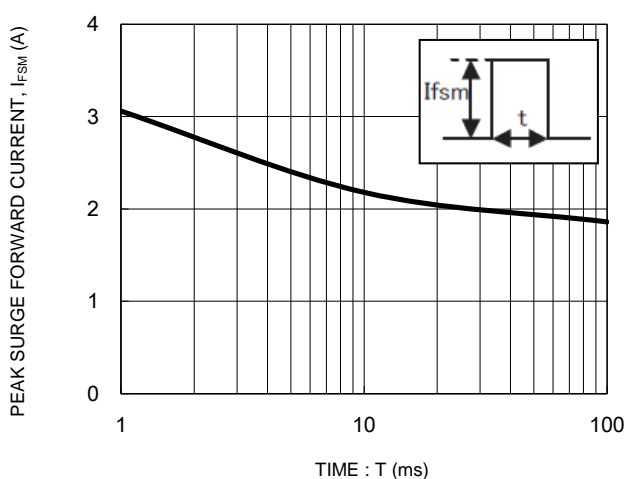
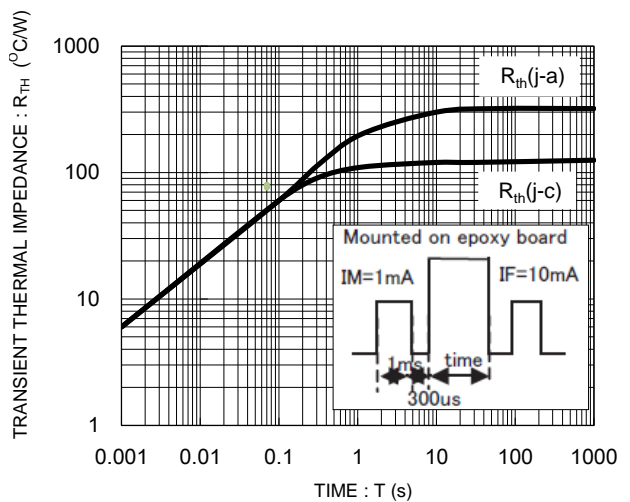


Fig.6 $R_{th} - t$ Characteristics



CHARACTERISTICS CURVES

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

Fig.7 $I_o - P_F$ Characteristics

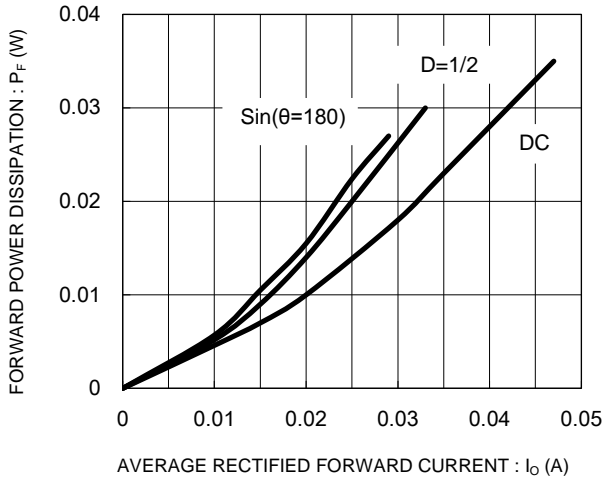
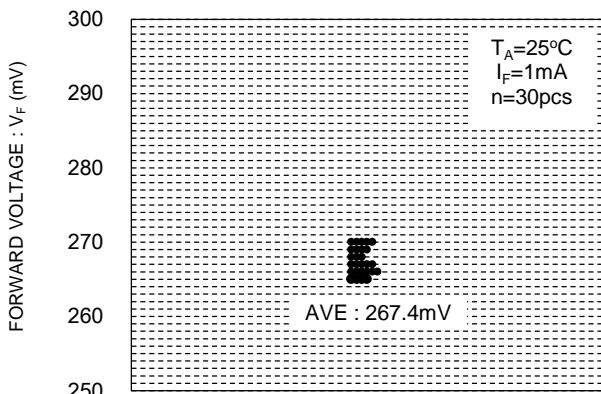
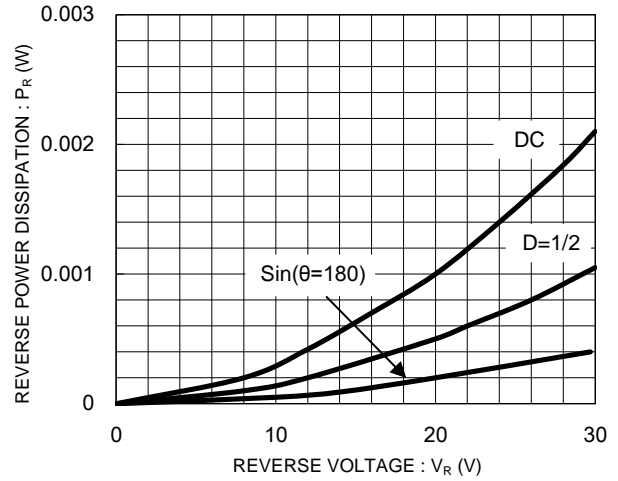
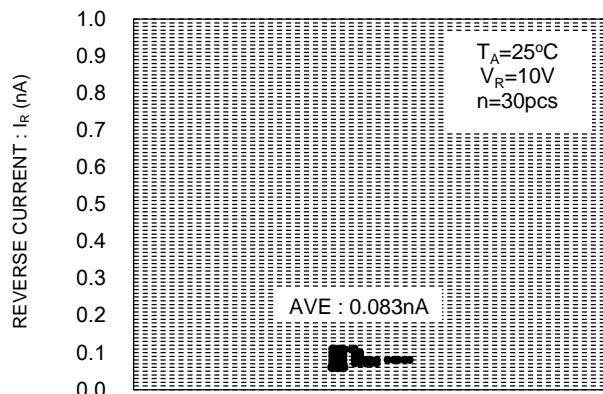


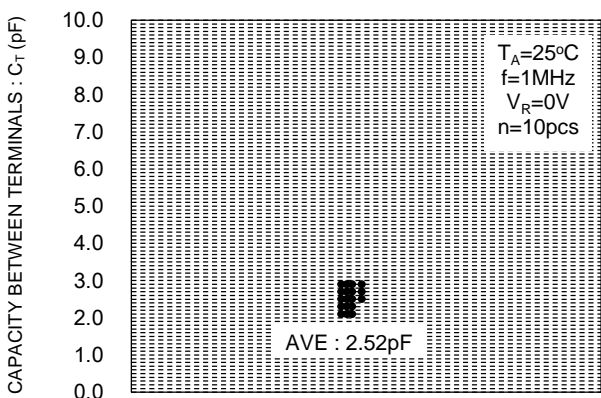
Fig.8 $V_R - P_R$ Characteristics



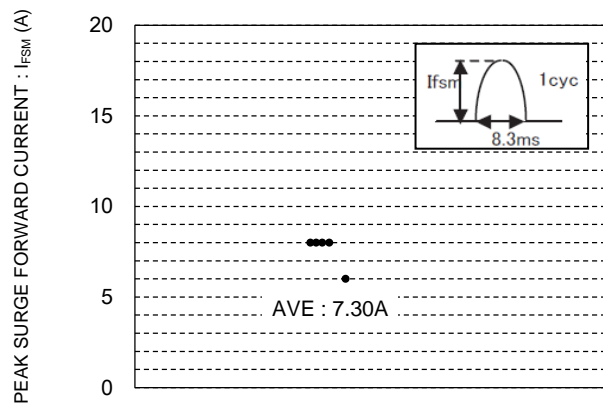
V_F DISPERSION MAP



I_R DISPERSION MAP



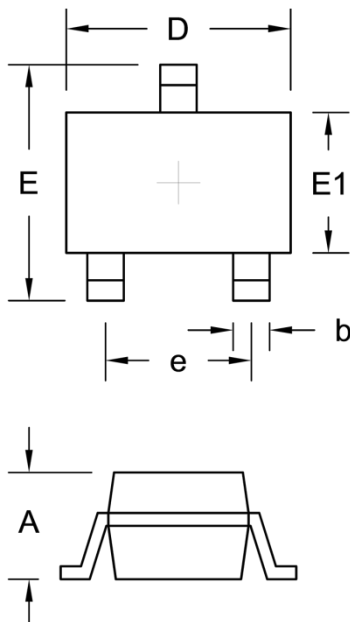
C_T DISPERSION MAP



I_{FSM} DISPERSION MAP

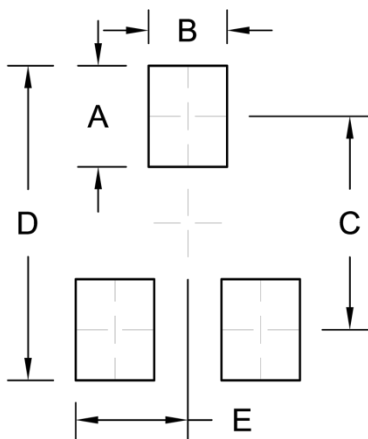
PACKAGE OUTLINE DIMENSIONS

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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