200mA, 30V Dual Schottky Barrier Diode

FEATURES

- AEC-Q101 qualified
- Fast switching speed
- Low forward voltage
- Surface mound device type
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	200	mA
V_{RRM}	30	V
I_{FSM}	600	mA
$T_{J\ MAX}$	125	°C
V_F at I_F=100mA	800	mV
Configuration	Dual die	

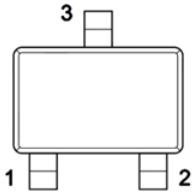
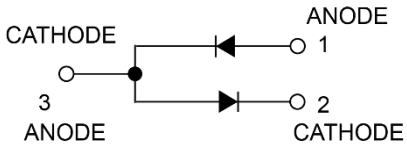
APPLICATIONS

- Ultra high-speed switching
- Line termination
- Voltage clamping
- Reverse polarity protection

Pb-Free RoHS COMPLIANT HALOGEN FREE

MECHANICAL DATA

- Case: SOT-323
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Weight: 5.00mg (approximately)

PACKAGE: SOT-323	PIN CONFIGURATION	CIRCUIT DIAGRAM
		

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	VALUE	UNIT
Power dissipation(1)		P_D	200	mW
Repetitive peak reverse voltage		V_{RRM}	30	V
Forward current		I_F	200	mA
Repetitive peak forward current		I_{FRM}	300	mA
Non-repetitive peak forward surge current	t < 1.0s	I_{FSM}	600	mA
Junction temperature		T_J	-55 to +125	°C
Storage temperature		T_{STG}	-55 to +150	°C

Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance(1)	$R_{\Theta JA}$	500	°C/W

Thermal Performance Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Forward voltage(1)	I_F = 0.1mA	V_F	-	-	240	mV
	I_F = 1mA		-	-	320	
	I_F = 10mA		-	-	400	
	I_F = 30mA		-	-	500	
	I_F = 100mA		-	-	800	
Reverse breakdown voltage	I_R = 100μA	V_{BR}	30	-	-	V
Reverse current(2)	V_R = 25V	I_R	-	-	2	μA
Junction capacitance	f = 1MHz, V_R = 1V	C_J	-	-	10	pF
Reverse recovery time	I_F = I_R = 10mA, I_{RR} = 1mA, R_L = 100Ω	t_{rr}	-	-	5	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
BAT54SWH RFG	SOT-323	3,000 / 7” Tape & Reel

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Power Dissipation Curve

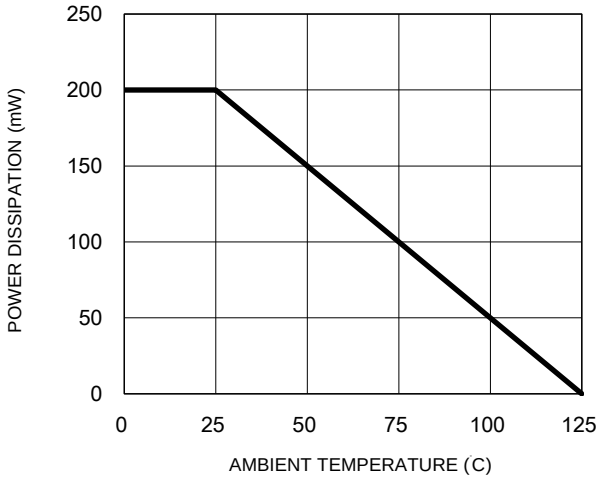


Fig.2 Typical Junction Capacitance

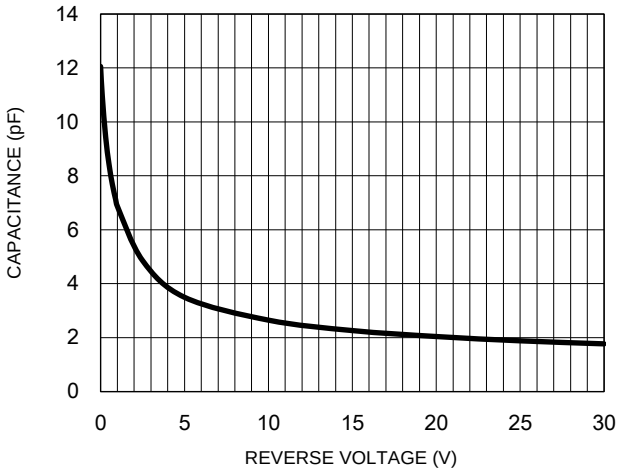


Fig.3 Typical Reverse Characteristics

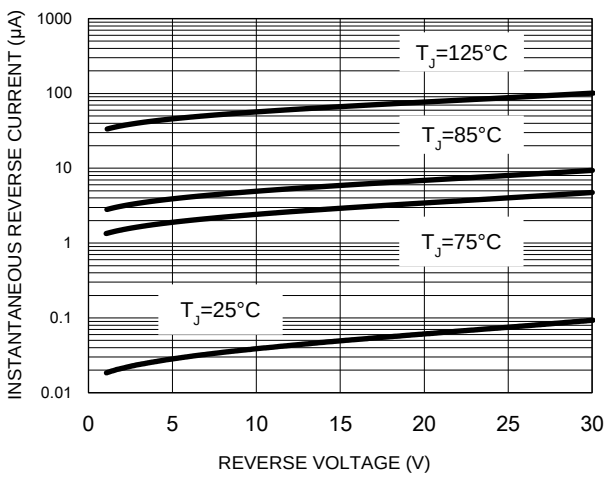
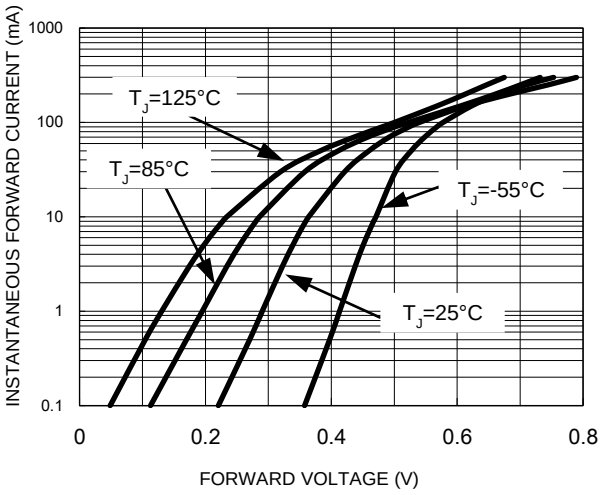
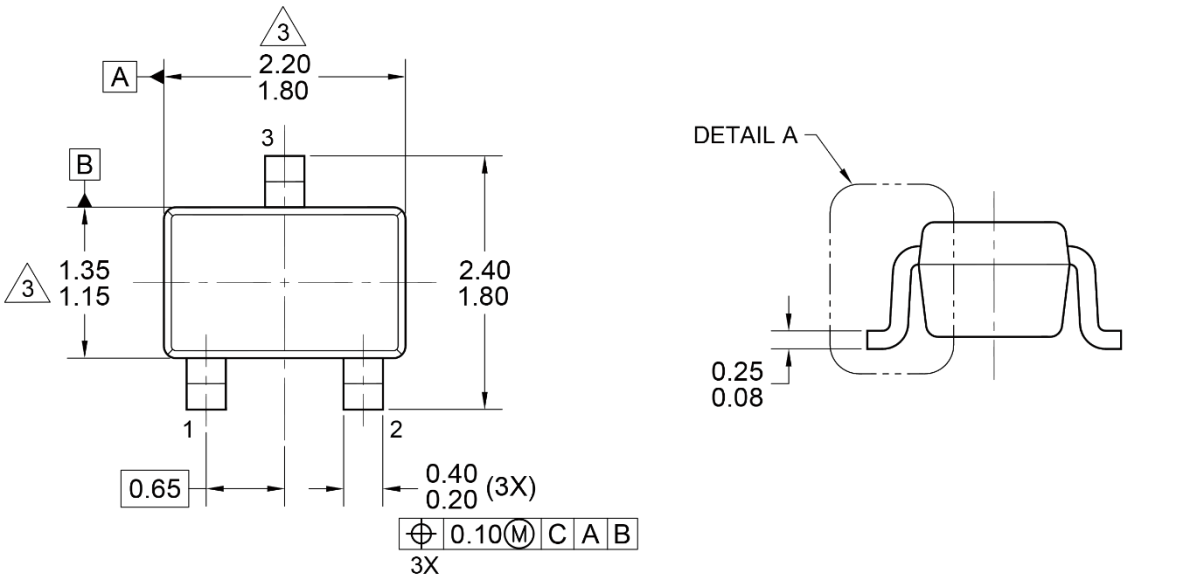


Fig.4 Typical Forward Characteristics

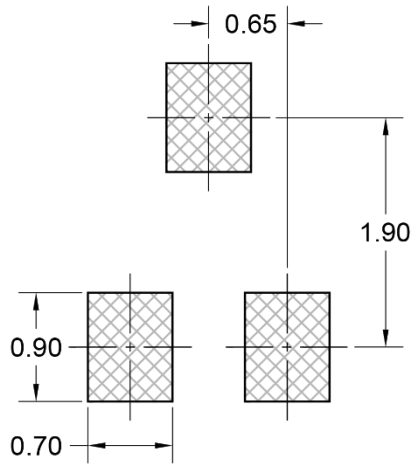


PACKAGE OUTLINE DIMENSIONS

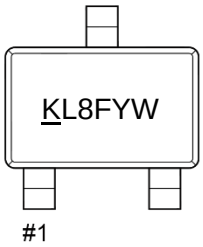
SOT-323



DETAIL A
(SCALE 2:1)



SUGGESTED PAD LAYOUT



MARKING DIAGRAM

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
4. DWG NO. REF: HQ2SD07-SOT323-098 REV C.

KL8 = Device marking
F = Factory code
Y = Year code
W = Bi-Week code (A~Z)

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