

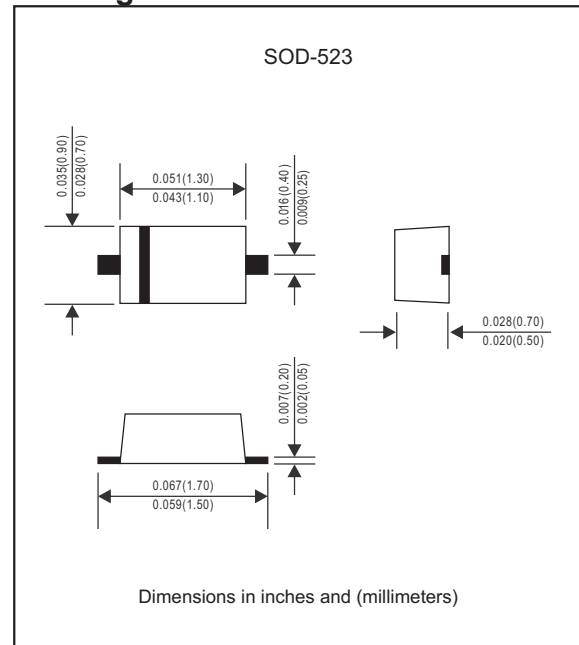
### Features

- Low current rectification and extremely high speed switching.
- Extremely small surface mount type.
- Up to 30mA current capability.
- High Reliability.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet exceeds environmental standards of MIL-STD-19500 /228
- Compliant to Halogen - free

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-523
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		$V_{RM}$			40	V
Continuous reverse voltage		$V_R$			30	V
Average Rectifier Forward current		$I_{F(AV)}$			30	mA
Forward surge current	60Hz for 1cycle	$I_{FSM}$			200	mA
Capacitance between terminals	f=1MHz and applied 1.0V DC reverse voltage	$C_T$		2		pF
Operating junction temperature range		$T_J$	-65		+125	$^{\circ}\text{C}$
Storage temperature range		$T_{STG}$	-55		+125	$^{\circ}\text{C}$
Forward voltage	$I_F = 1.0 \text{ mA}$	$V_F$			0.37	V
Reverse current	$V_R = 30 \text{ V}$	$I_R$			0.5	$\mu\text{A}$

## RATING AND CHARACTERISTIC CURVES (RB751S-40)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

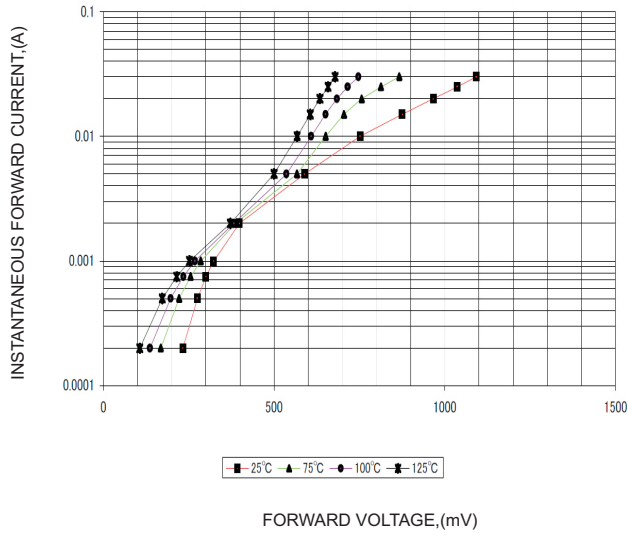


FIG.2 - TYPICAL REVERSE CHARACTERISTICS

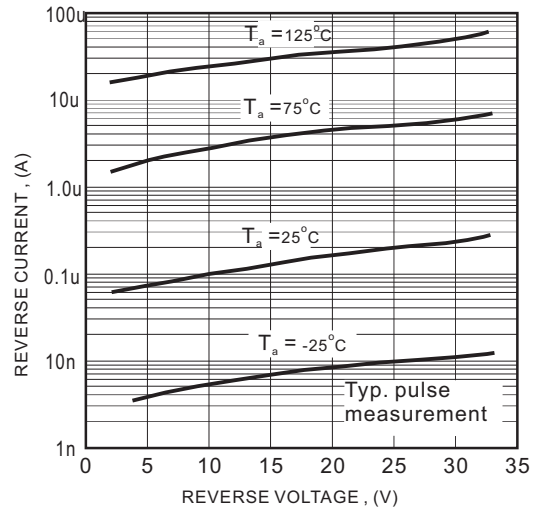
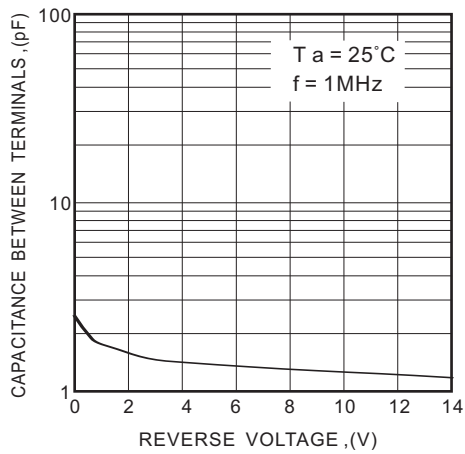




FIG.3-TYPICAL TERMINALS CAPACITANCE



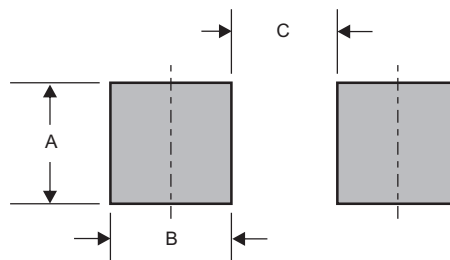
### Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

### Marking

Type number	Marking code
RB751S-40	4B, 5

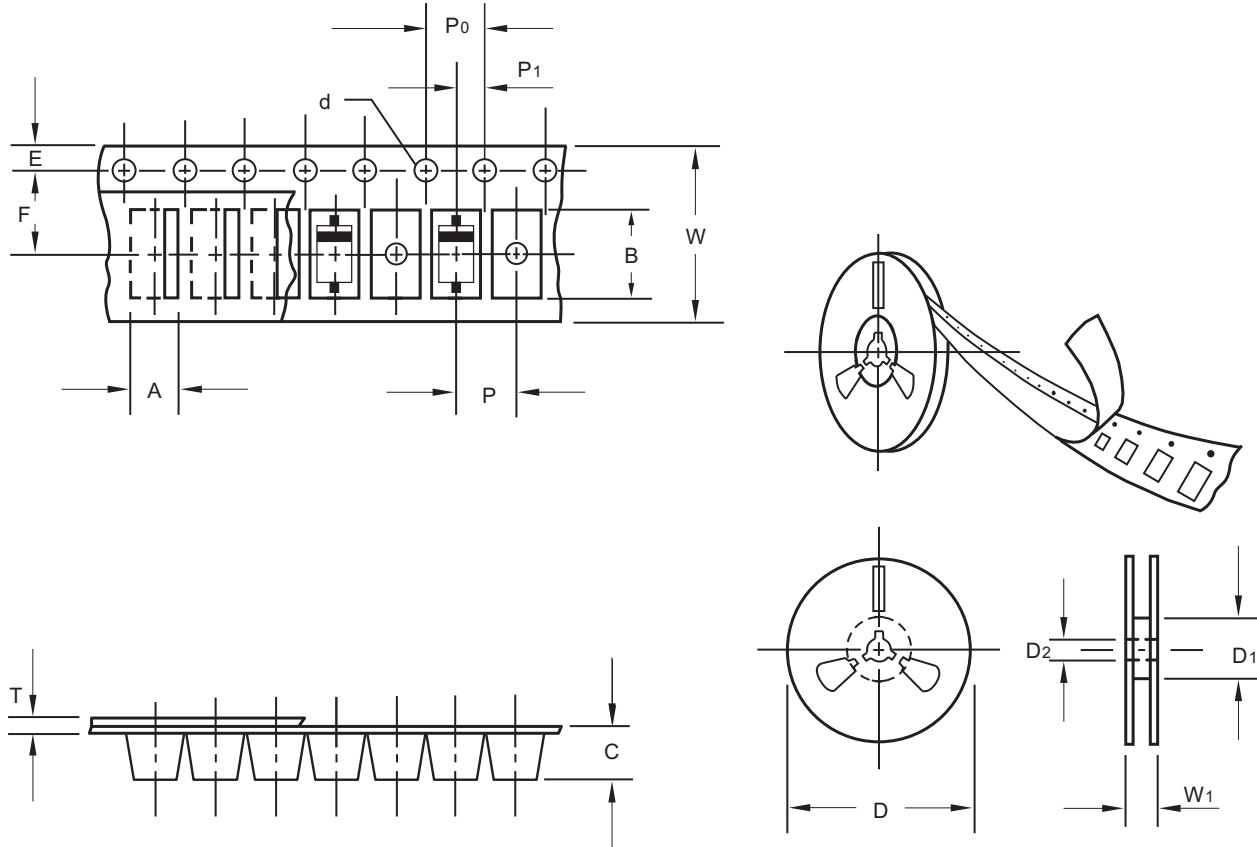
### Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-523	0.032 (0.80)	0.024 (0.60)	0.044 (1.10)

## Packing information



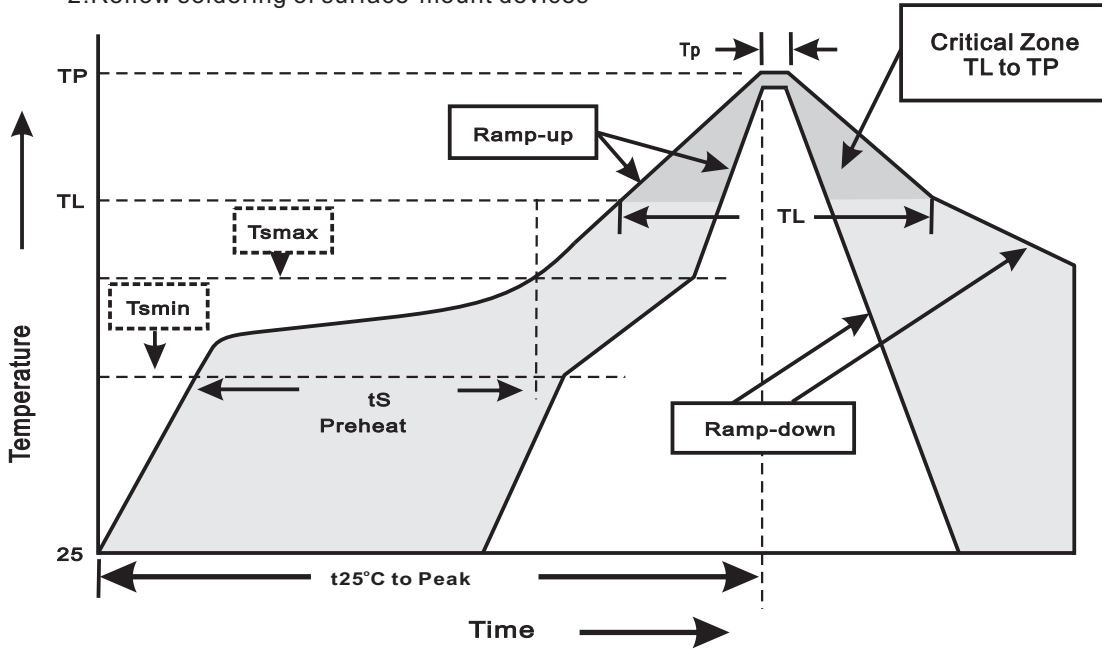
unit:mm

Item	Symbol	Tolerance	SOD-523
Carrier width	A	0.1	0.90
Carrier length	B	0.1	1.94
Carrier depth	C	0.1	0.76
Sprocket hole	d	0.1	1.50
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	50.00
Feed hole diameter	D2	0.2	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	2.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W1	1.0	9.50

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

### Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



### 3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T <sub>L</sub> to T <sub>P</sub> )	<3°C/sec
Preheat -Temperature Min(T <sub> Amin</sub> ) -Temperature Max(T <sub> smax</sub> ) -Time(min to max)(t <sub> s</sub> )	150°C 200°C 60~120sec
T <sub> smax</sub> to T <sub> L</sub> -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T <sub> L</sub> ) -Time(t <sub> l</sub> )	217°C 60~260sec
Peak Temperature(T <sub> P</sub> )	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t <sub> p</sub> )	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes