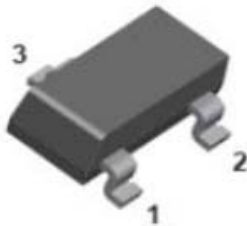
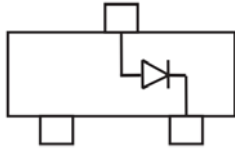


## Schottky Barrier Diode



### Features

- Moisture sensitivity level 1
- Reverse voltage: 30V
- Average forward current : 200mA

### Application

- High frequency and low voltage rectifier

### Mechanical data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Device marking code			KL
Repetitive peak reverse voltage	$V_{RRM}$	V	30
Forward current	$I_F$	mA	200
Non-repetitive Surge peak forward current @ t=8.3ms half-sine wave	$I_{FSM}$	A	0.6
Non-repetitive Surge peak forward current @ t=1ms square wave			0.6
Power dissipation	$P_D$	mW	200
Junction temperature	$T_J$	$^\circ\text{C}$	-55 to +125
Storage temperature	$T_{STG}$	$^\circ\text{C}$	-55 to +125



# BAL54

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## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Parameter	Symbol	UNIT	Conditions	Min	TYP	Max
Reverse voltage	V <sub>R</sub>	V	I <sub>R</sub> =0.1mA	30		
Forward voltage	V <sub>F1</sub>	V	I <sub>F</sub> =0.1mA			0.24
	V <sub>F2</sub>	V	I <sub>F</sub> =1mA			0.32
	V <sub>F3</sub>	V	I <sub>F</sub> =10mA			0.4
	V <sub>F4</sub>	V	I <sub>F</sub> =30mA			0.5
	V <sub>F5</sub>	V	I <sub>F</sub> =100mA			1
Reverse leakage current	I <sub>R</sub>	uA	V <sub>R</sub> =25V			2
Junction capacitance	C <sub>j</sub>	pF	V <sub>R</sub> =1V, f=1MHz		10	
Reverse recovery time	T <sub>rr</sub>	ns	I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1*I <sub>R</sub> ,			5

## ■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	500
Thermal resistance, junction-to-case	R <sub>θJ-C</sub> <sup>(1)</sup>	°C/W	400

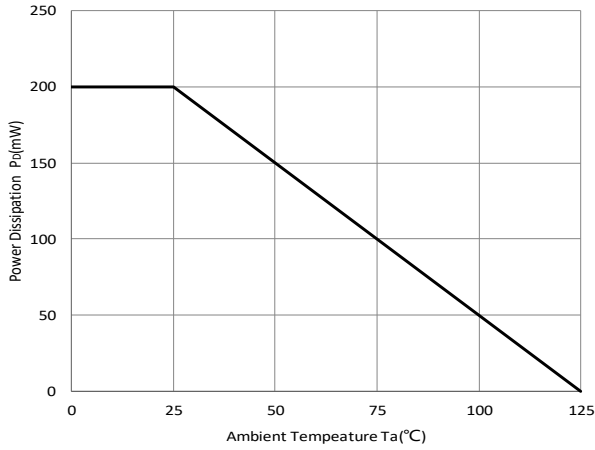
### Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

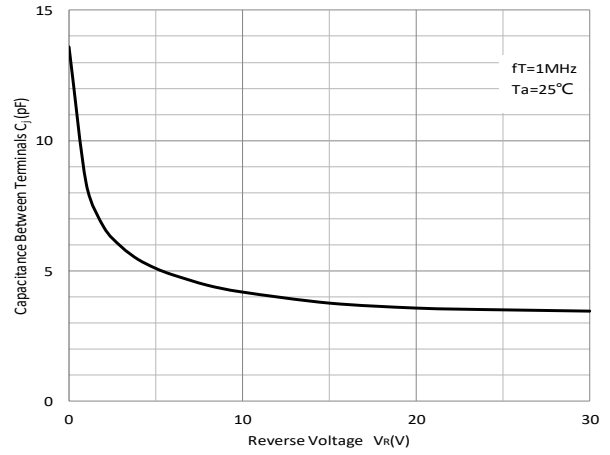


## ■ Characteristics

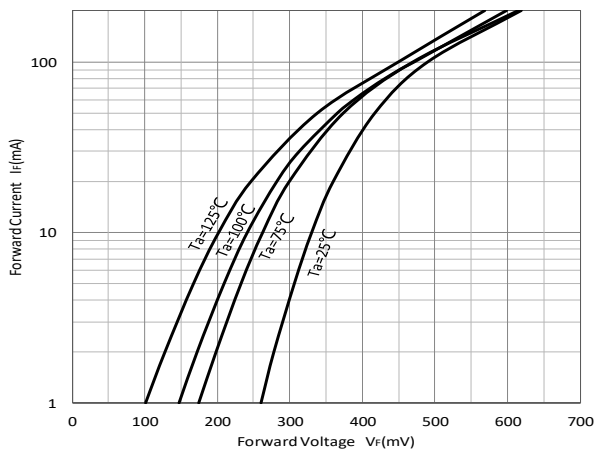
**Fig 1:  $P_D$ - $T_a$  Curve**



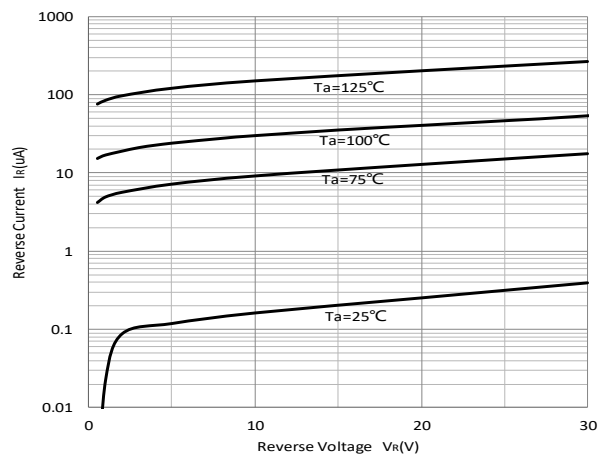
**Fig 2: Capacitance Capability**



**Fig 3: Typical Forward Characteristics**



**Fig 4: Typical Reverse Characteristics**





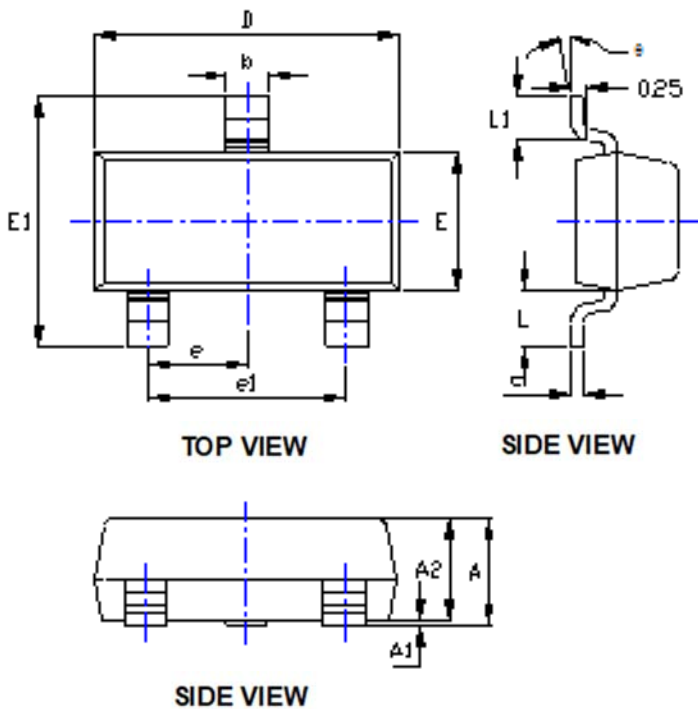
# BAL54

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## Ordering Information

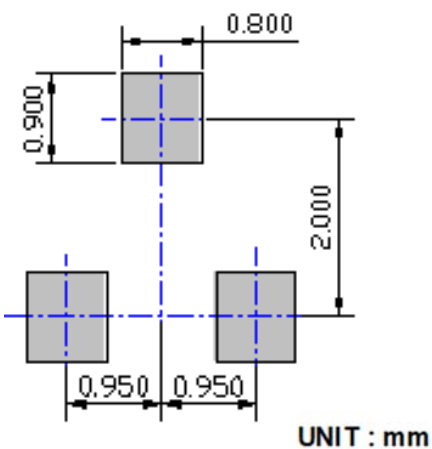
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity (pcs)	Delivery mode
BAL54	F2	Approximate 0.008	3000	30000	120000	7" reel
BAL54	F4	Approximate 0.008	10000	-	210000	13" reel

## Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

## Suggested Pad Layout





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