

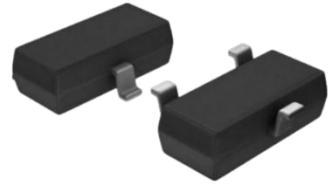
SPECIFICATION SHEET NO.	S1017- BAT54L0000SKL1	
ORIGINAL MFG/PART NO.	 LGE Diodes/BAT54 -L	
NEXTGEN PART CODE	BAT54L0000SKL1	Indicate This Code For RFQ /Order
DATE	Oct. 17, 2025	
REVISION	A4	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	Small Signal Schottky Barrier Diode, 3 Pads, Case SOT-23, BAT54 L Series, DC Reverse Voltage(VR) 30V Max. Forward Continuous Current (IF) 200mA Max. Operating Temp. Range -55°C ~+150°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE			
Issued/Checked/Approved			
Effective Date: Oct. 17, 2025			

CUSTOMER APPROVE	
Date:	

MAIN FEATURE

- Low Turn-on Voltage
- Fast Switching Time
- Ultra-small Surface Mount Package
- PN Junction Guard For Transient And ESD Protection
- Short Lead Time
- Cross Competitors Parts and More.
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)



*Image shown is a representation only.
Exact specifications should be obtained
from the product dimension.*

APPLICATION

- For General Purpose Switching Applications

ELECTRICAL CHARACTERISTICS

- See Page 6 ~Page 7
- All Parameters are Subject To NextGen Components' Final Confirmation



HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code BAT54L0000SKL1 For RFQ and Order.

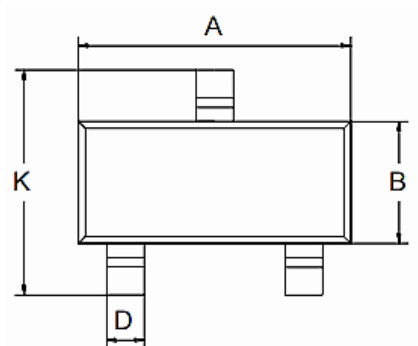
PART CODE GUIDE

RFQ
[Request For Quotation](#)

CODE	NAME	KEY SPECIFICATION OPTION
BAT54	Product Series Code	Small Signal Schottky Barrier Diode, 3 Pads, Case SOT-23, BAT54 L Series, DC Reverse Voltage(VR) 30V Max. Forward Continuous Current (IF) 200mA Max.
L0000S	Internal Control Code	Letter or Digits (A~Z, a~z or 0~9)
KL1	Marking Code	Letter or Digits (A~Z, a~z or 0~9)
XX	Special/Custom Parameters Code	Letter or Digits (A~Z, a~z or 0~9) for Special Parametric; Blank: N/A

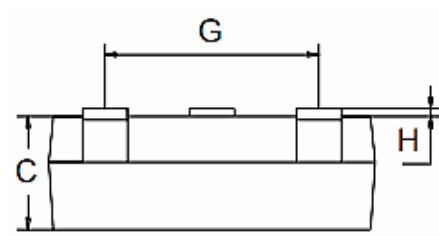
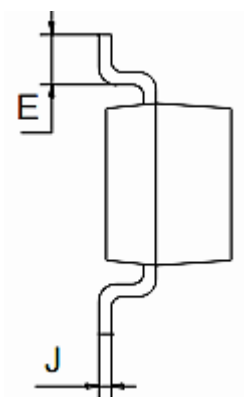
DIMENSION- Unit: mm, Case SOT-23 Outline

Top View

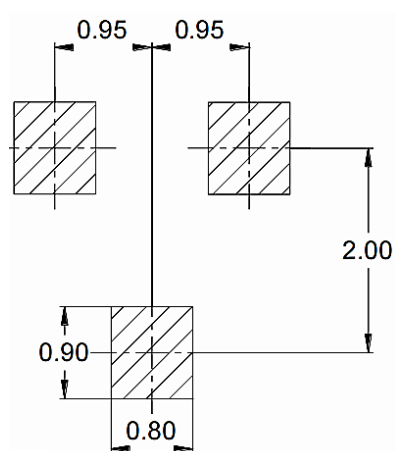


Case SOT-23		
Symbol	Min.	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

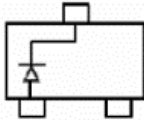
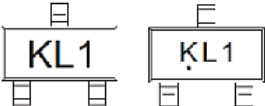
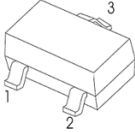
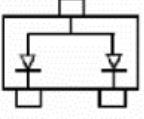
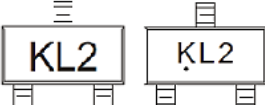
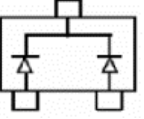
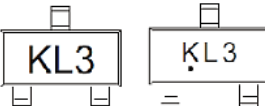
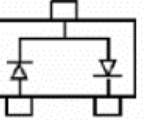
Side View



Mounting Pad Layout



PIN CONNECTION AND MARKING LIST – For Different Part Code

PART CODE	PIN CONNECTION TYPE CODE	PIN CONNECTION	MARKING	PIN FUNCTION
BAT54L0000SKL1	KL1			 1. Base 2. Emitter 3. Collector
BAT54AL0000SKL2	KL2			
BAT54CL0000SKL3	KL3			
BAT54SL0000SKL4	KL4			

Note:

Solid Dot = Green Molding Compound Device, If None, The Normal Device

MECHANICAL DATA

CASE	MOLDING COMPOUND	TERMINALS	MARKING
SOT-23	UL Flammability Classification Rating 94V-0	Matte Tin-plated Leads; Solderability- per MIL-STD-202, Method 208	See Page 5

MAX. RATINGS - Ratings at 25 °C ambient temperature unless otherwise specified.

PARAMETER	SYMBOLS	VALUE	UNITS
Peak Repetitive Reverse Voltage	VRRM	30	V
Working Peak Reverse Voltage	VRWM	30	V
DC Reverse Voltage	VR	30	V
Forward Continuous Current	IF	200	mA
Repetitive Peak Forward Current	IFRM	300	mA
Non-repetitive Forward Surge (tp = 1s)	IFSM	600	mA

THERMAL CHARACTERISTICS - Ratings at 25 °C ambient temperature unless otherwise specified.

PARAMETER	SYMBOLS	VALUE	UNITS
Power Dissipation	PD	250	mW
Thermal Resistance Junction-to-Air *1	RθJA	280	°C/W
Thermal Resistance (Junction-to-Case) *1	RθJC	190	°C/W
Thermal Resistance (Junction-to-Lead) *1	RθJL	200	°C/W
Operating Junction Temperature Range	TJ	-55 ~ +150	°C
Storage Temperature Range	TSTG	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS - Ratings at 25 °C ambient temperature unless otherwise specified.

PARAMETER	SYMBOLS	VALUE			UNIT	CONDITION
		MIN.	TYP.	MAX.		
Reverse Breakdown Voltage	V(BR)R	30	-	-	V	IR=100uA
Forward Voltage *2	VF1	-	-	240	mV	IF=0.1mA
	VF2	-	-	320	mV	IF=1.0mA
	VF3	-	-	400	mV	IF=10mA
	VF4	-	-	500	mV	IF=30mA
	VF5	-	-	800	mV	IF=100mA
Maximum Peak Reverse Current *3	IR	-	-	2.0	μA	VR=25V
Reverse Recovery Time	trr	-	-	5.0	ns	IF = IR=10mA Irr=0.1x IR, RL=100Ω
Typical Junction Capacitance	CJ	-	-	10	pF	VR=1V, f=1.0MHz

Note:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper
2. Pulse Test, tp ≤ 300μs
3. Pulse Test, tp ≤ 5ms

RATINGS AND CHARACTERISTICS CURVES- For Reference Only, $T_a=25^\circ\text{C}$ Unless Otherwise Specified.

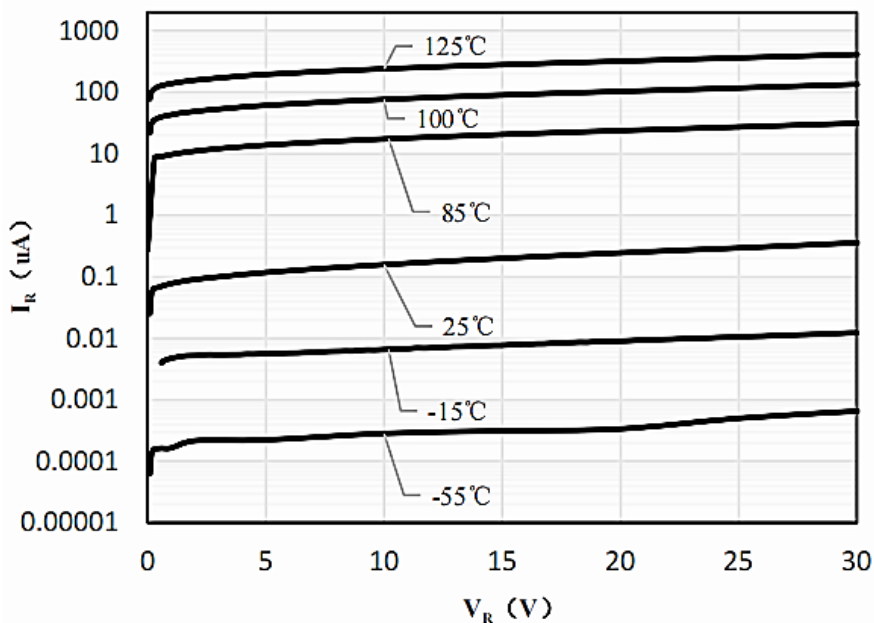


Fig 1 Typical Reverse Characteristic

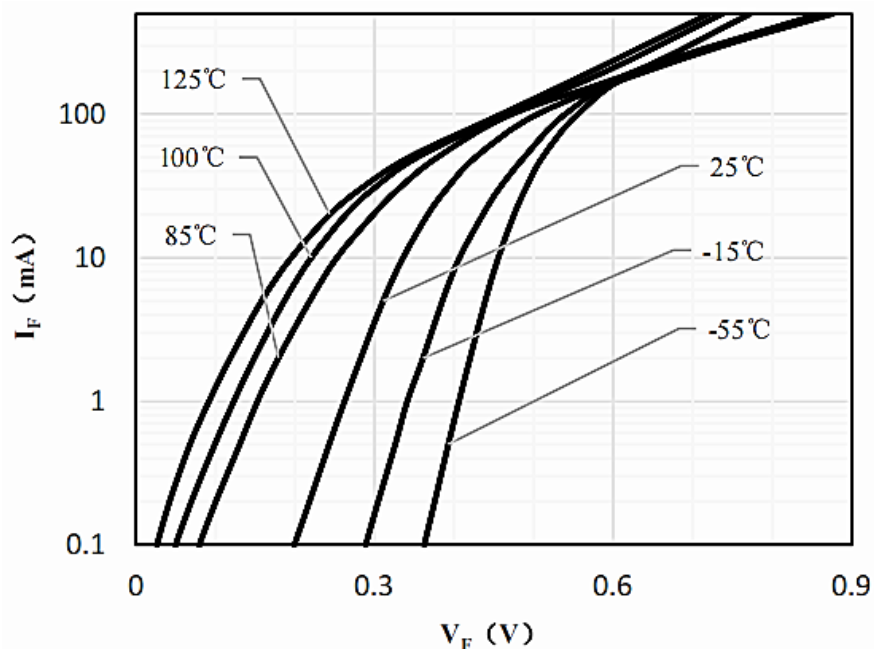


Fig 2 Typical Forward Characteristics

RATINGS AND CHARACTERISTICS CURVES- For Reference Only, $T_A=25^\circ\text{C}$ Unless Otherwise Specified.

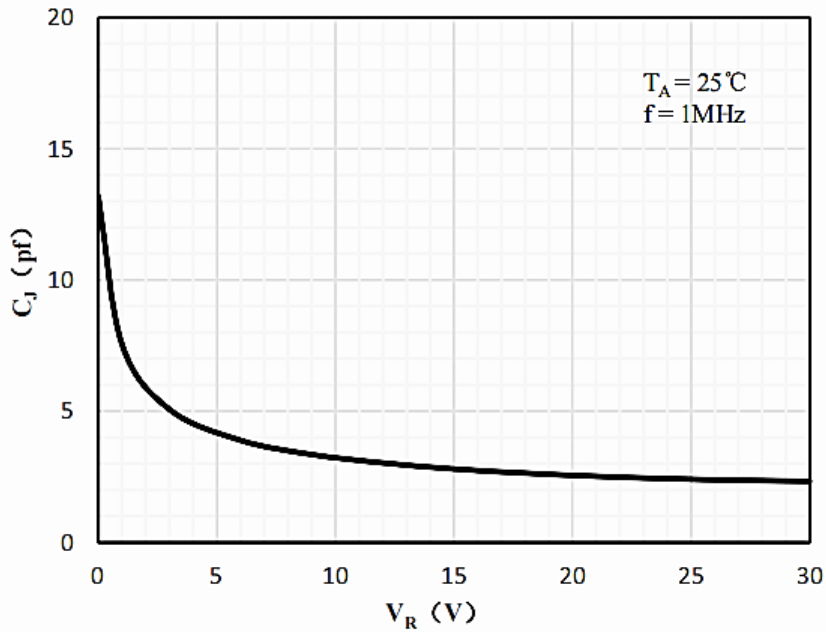


Fig 3 Capacitance Characteristics

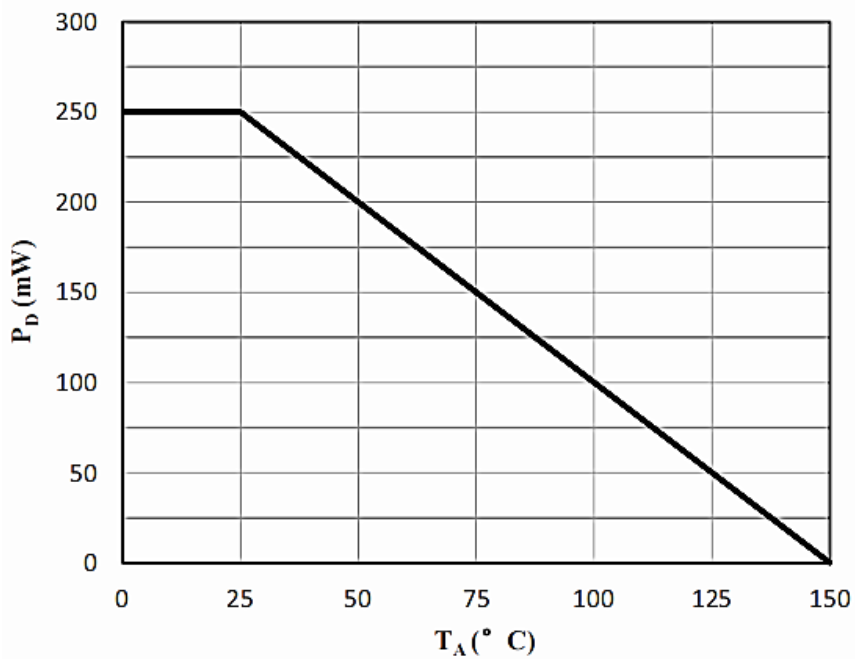
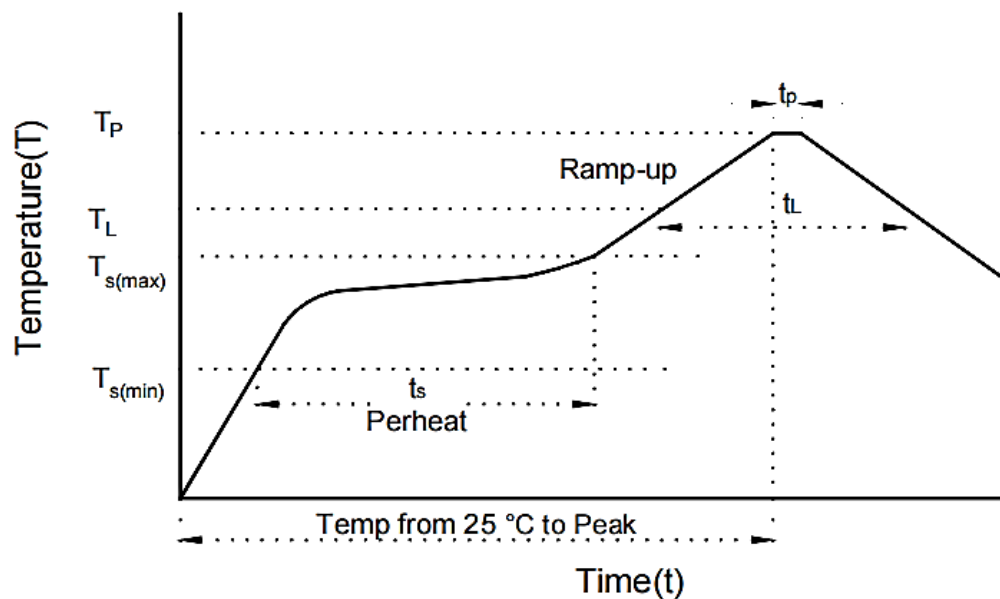
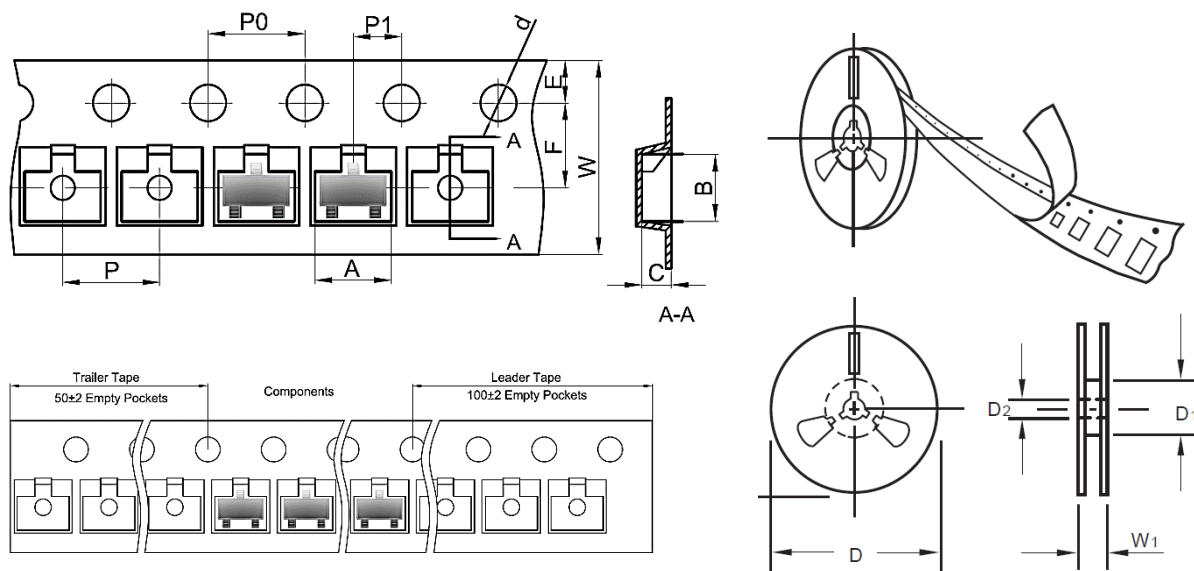


Fig 4 Power Derating Curve

RECOMMENDED SOLDERING PARAMETERS – FOR REFERENCE ONLY


PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (T_L Max to T_p)		3°C/second Max
Preheat	Temperature Min (T_s Min.)	150°C
	Temperature Max (T_s Max.)	200°C
	Time (t_s Min. to t_s Max.)	60 ~ 180 seconds
Time maintained above	Temperature (T_L)	217°C
	Time (t_L)	60 ~ 150 seconds
Peak/Classification Temperature (T_p)		260 °C
Time within 5°C of actual Peak Temperature (t_p)		20 ~ 40 seconds
Ramp-down Rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		8 Minutes Max.
Suggest reflow times		3 Times Max.

TAPE/REEL - Unit: mm, All Devices are packed in accordance with EIA standard RS-481-A and specifications



ITEM	SYMBOL	TOLERANCE	SOT-23
Carrier width	A	0.1	3.15
Carrier Length	B	0.1	2.77
Carrier Depth	C	0.1	1.22
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	Min.	54.4
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.00
Reel width	W1	1.0	19.50
MPQ/Reel	3000pcs/Reel		

IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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