




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	P115- SOT23AT54SSKL4
DATE	Jan. 15, 2022
REVISION	A0
DESCRIPTION	SMD Schottky Diodes, Plastic- Encapsulate Diodes, SOT-23 series, 3 pads BAT54S Type, Reverse Voltage 30V Max. Forward Current 200 mA Max. Operating Temp. Range -55°C ~+125°C, Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD BAT54S
PART CODE	SOT23AT54SSKL4

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: Jan. 15, 2022			

CUSTOMER APPROVE	
DATE:	

SMD SCHOTTKY DIODES SOT-23 SERIES

MAIN FEATURE

- Extremely Fast Switching Speed
- Surface Mount Package Ideally Suited For Automatic Insertion



APPLICATION

- For Use In PCB

PART CODE GUIDE

RFQ

[Request For Quotation](#)

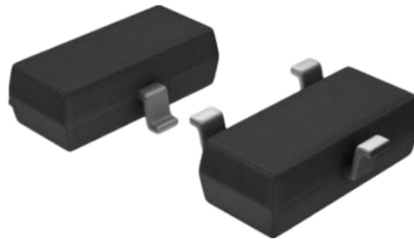
SOT23	AT54S	S	KL4
1	2	3	4

- 1) **SOT23**: SMD Schottky diodes, 2 pads, SOT-23 series code
- 2) **AT54S**: Type code for original part number BAT54S
- 3) **S**: Package code, Tape/reel, 3000pcs/reel.
- 4) **KL4**: Marking code for “KL4” on the case surface, Different Marking for different specification.

SMD SCHOTTKY DIODES SOT-23 SERIES

DIMENSION (Unit: Inch/mm)

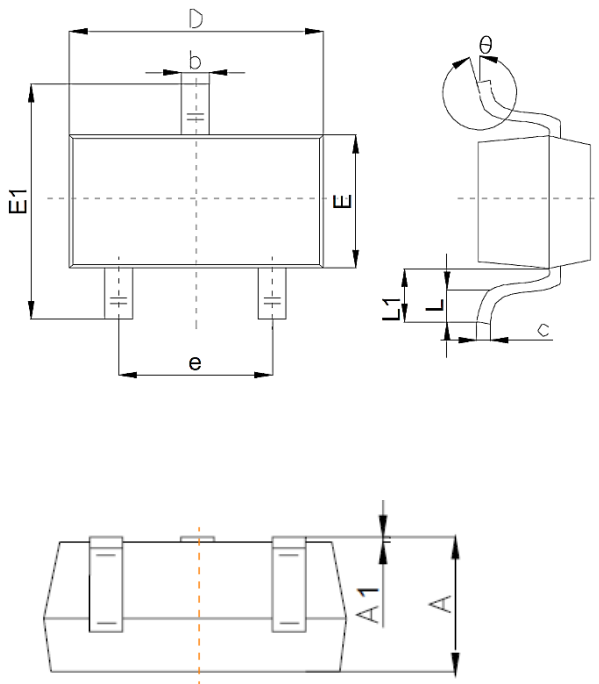
Image for reference



Marking: KL4

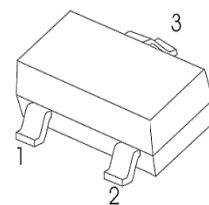
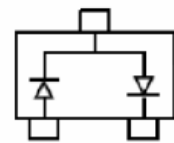
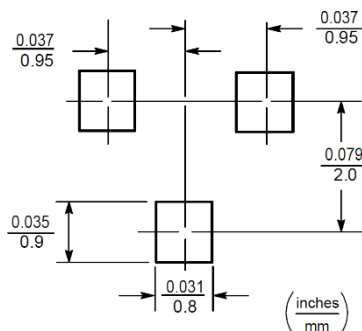
Solid dot = Green molding compound device, if none, the normal device

SOT-23



Symbol	Value (mm)		
	Min.	Typ.	Max.
A	0.9		1.4
A1			0.10
b	0.30		0.50
c	0.08		0.20
D	2.80	2.90	3.10
E	1.20		1.60
E1	2.25		2.80
e	1.8	1.9	2.00
L	0.10		0.50
L1	0.40		
θ	0°		10°

Recommend Pad Layout



1. Base
2. Emitter
3. Collector

SMD SCHOTTKY DIODES SOT-23 SERIES
MECHANICAL DATA

Case	Terminals	Polarity	Weight per piece
JEDEC SOT-23 molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on case	0.00019 Ounce, 0.0055 grams

ABSOLUTE MAX. RATING AT 25 °C

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Repetitive Peak Reverse Voltage	V_{RRM}			30	Volts
Working Peak Reverse Voltage	V_{RWM}			30	Volts
DC Blocking Voltage	V_R			30	Volts
Forward Continuous Current	I_{FM}			200	mA
Non-Repetitive Peak Forward Surge Current @ 8.3ms	I_{FSM}			600	mA
Repetitive Peak Forward Current @ $t \leq 1s, \delta \leq 0.5$	I_{FRM}			300	mA
Power Dissipation	P_D			200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$			500	°C/W
Junction Temperature Range	T_J	-55		+125	°C
Storage Temperature Range	T_{STG}	-55		+150	°C

SMD SCHOTTKY DIODES SOT-23 SERIES

CHARACTERISTICS AT Ta= 25 °C

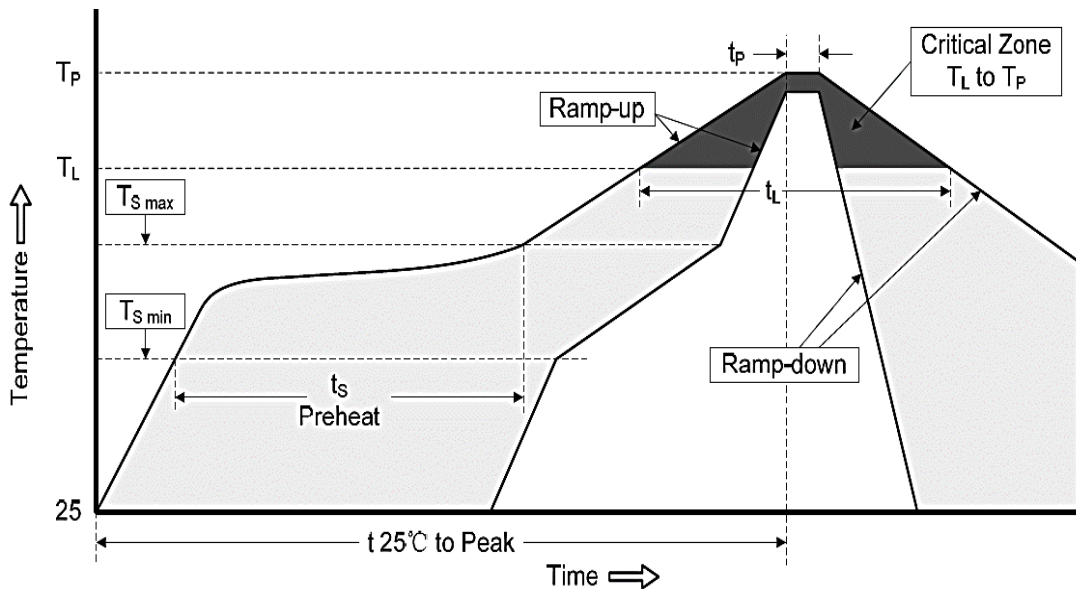
Parameter	SYMBOLS	VALUE			UNIT	Condition
		Min.	Typ.	Max.		
Reverse Voltage	V _{BR}	30			V	I _R = 100 μA
Forward Voltage	V _F			0.24	V	I _{F1} = 0.1mA
				0.32	V	I _{F2} = 1mA
				0.40	V	I _{F3} = 10mA
				0.50	V	I _{F4} = 30mA
				1.0	V	I _{F5} = 100mA
Reverse Current	I _R			2	μA	R = 25V
Diode Capacitance	C _D			10	pF	V _R =1V, f = 1MHz
Reverse Recovery Time	t _{rr}			5	ns	I _F =I _R =10mA I _{rr} =0.1x I _R , R _L =100Ω

SMD SCHOTTKY DIODES SOT-23 SERIES
RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

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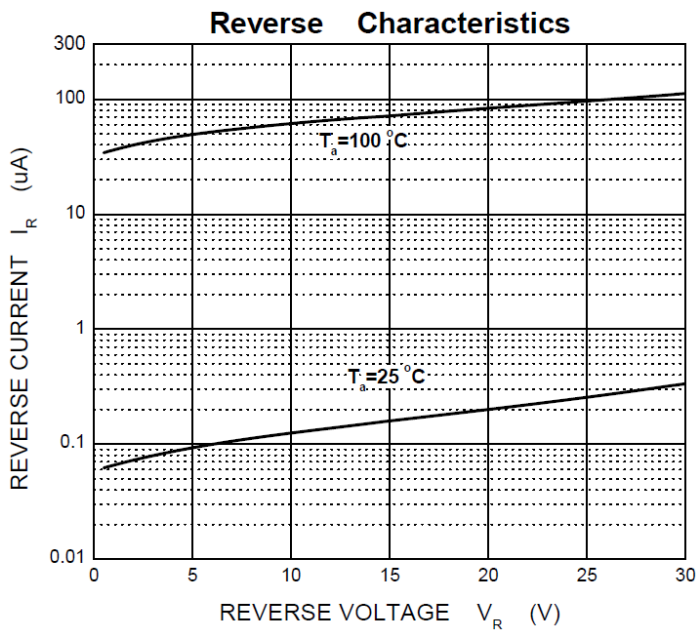
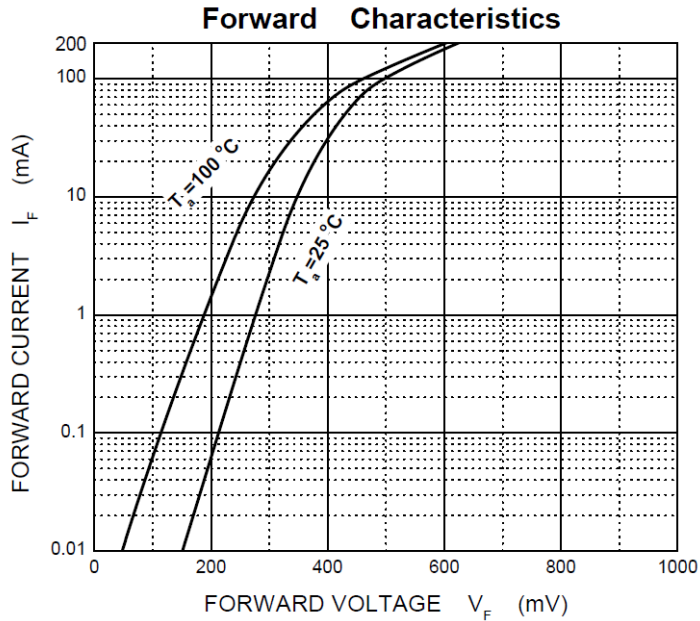
SUGGESTED REFLOW PROFILE (For Reference Only)



Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3°C/second Max
Preheat	Temperature Min (Ts Min.)	150°C
	Temperature Max (Ts Max.)	200°C
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (Tl)	217°C
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 °C
Time within 5°C of actual Peak Temperature (tp)		10 seconds
Ramp-down rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		6 minutes Max.
Suggest reflow times		3 Times Max.

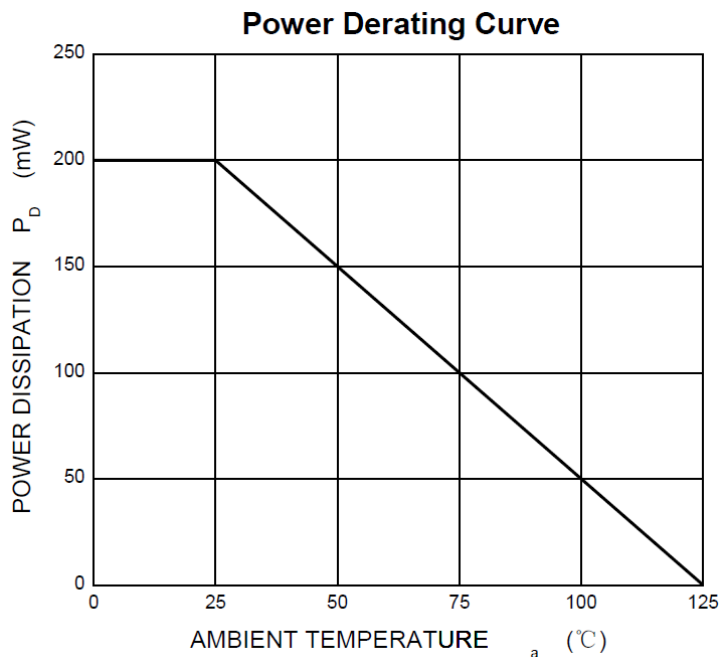
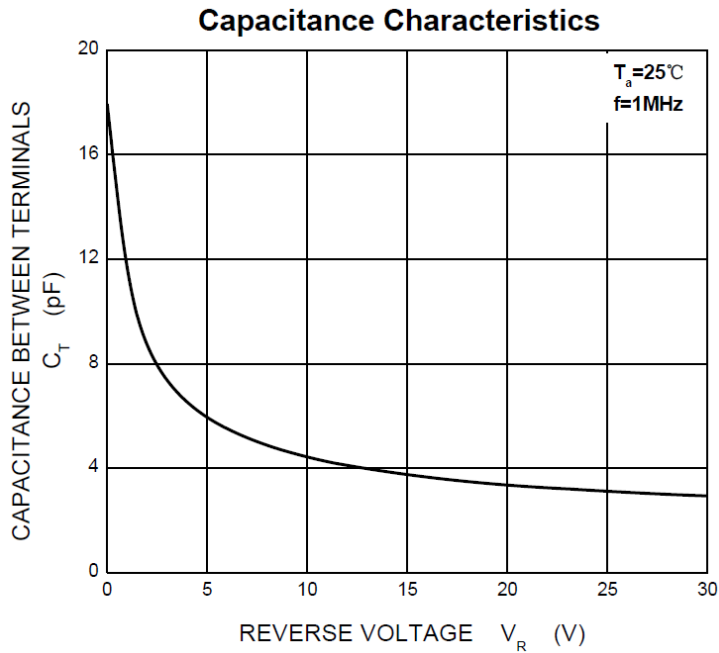
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RATINGS AND CHARACTERISTIC CURVES (For Reference Only)



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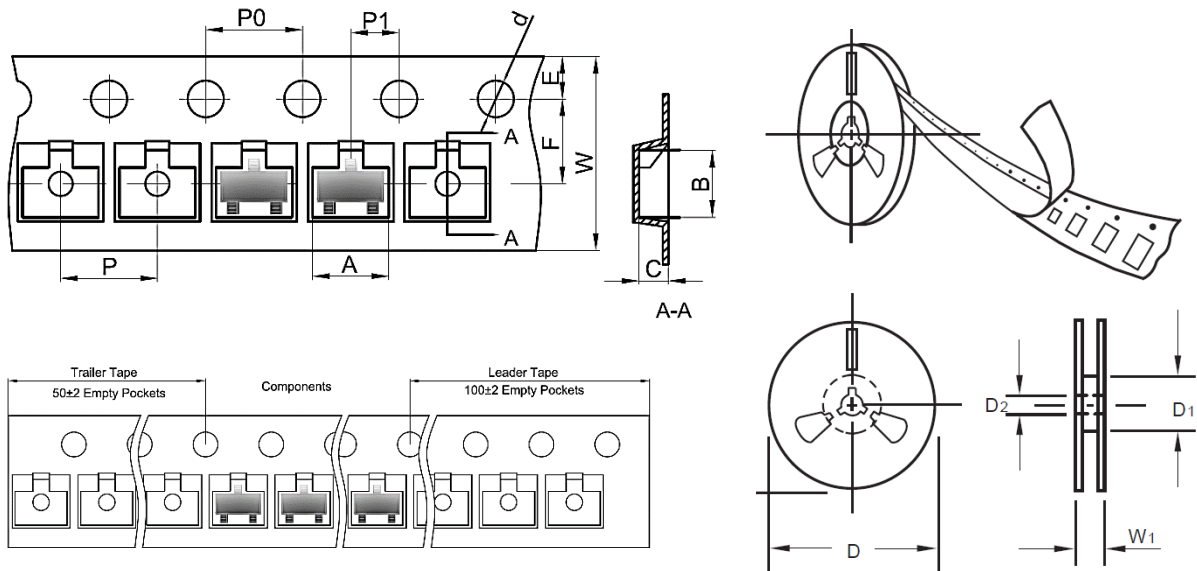
RATINGS AND CHARACTERISTIC CURVES (For Reference Only)



SMD SCHOTTKY DIODES SOT-23 SERIES

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
13" Reel outside diameter	-	-	-
13" Reel inner diameter	-	-	-
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

SMD SCHOTTKY DIODES SOT-23 SERIES

PACKAGE

Case Code	SOT-23
Reel Size	7"
Reel Size	178mm
MPQ/Reel	3000 pcs
Qty. /Box	6000 pcs
G.W/Box	2 lbs

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