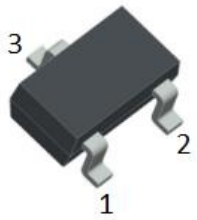
Technical Data
Data Sheet N0123, Rev. E

Automotive Qualified

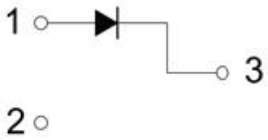
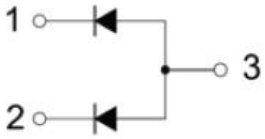
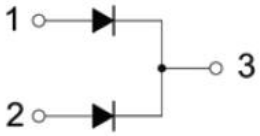
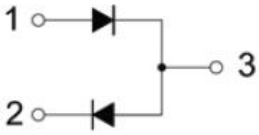
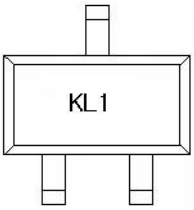
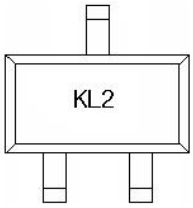
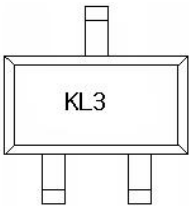
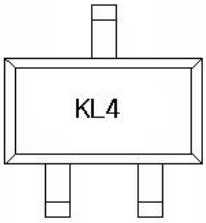
BAT54/A/C/S SCHOTTKY BARRIER DIODE



SOT-23

Features

- Negligible switching losses
- Very small conduction losses
- Low forward voltage drop
- Surface mount device
- Double diodes with different pining are available
- This is a Pb − Free Device
- "-A" is an AEC-Q101 qualified device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

BAT54	BAT54A	BAT54C	BAT54S
			
MARKING:KL1	**MARKING:KL2**	**MARKING:KL3**	**MARKING:KL4**
			

Note: If date code is before 16221, please contact with factory about marking.

Maximum Ratings@T_A=25°C unless otherwise specified

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	30	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =80°C, rectangular wave form	0.2	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	0.6	A
Power dissipation#	P_{tot}	T_{amb} = 25 °C	200	mW

Electrical Characteristics @T_A=25°C unless otherwise specified

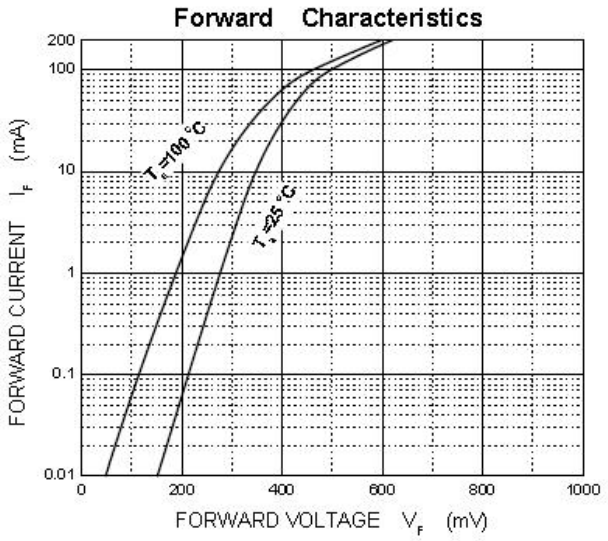
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(per leg)*	V_{F1}	@ 0.1mA, Pulse, T_J = 25 °C @ 1mA, Pulse, T_J = 25 °C @ 10mA, Pulse, T_J = 25 °C @ 30mA, Pulse, T_J = 25 °C @ 100mA, Pulse, T_J = 25 °C	0.21 0.29 0.35 0.40 0.50	0.24 0.32 0.40 0.50 1.0	V
Reverse Current(per leg)*	I_{R1}	@V_R = 25V, Pulse, T_J = 25 °C	0.3	2.0	μA
	I_{R2}	@V_R = 25V, Pulse,T_J = 100°C	102	200	μA
Junction Capacitance(per leg)	C_T	@V_R = 1 V, Tc=25℃ fSIG = 1MHz	6	10	pF
Reverse Recovery Time	t_{rr}	I_F=10mA I_R = 10mA T_J = 25 °C I_{rr} =1 mA R_L=100Ω	-	5	ns

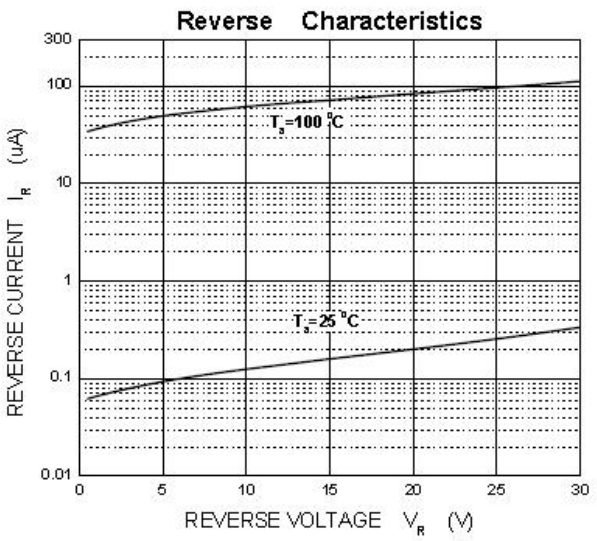
* Pulse width < 300 μs, duty cycle < 2%

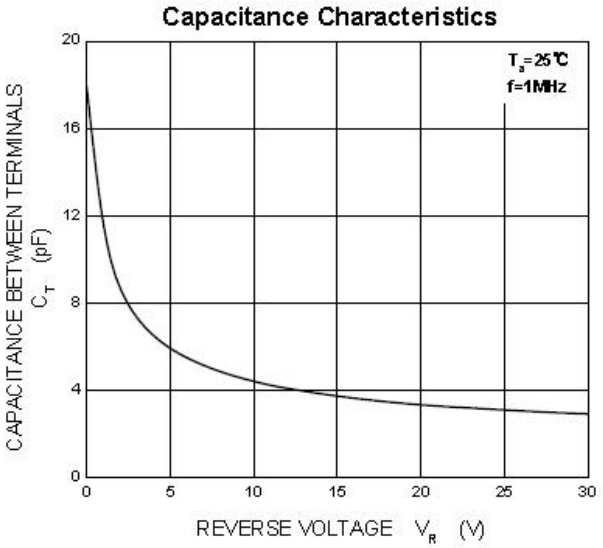
Thermal-Mechanical Specifications

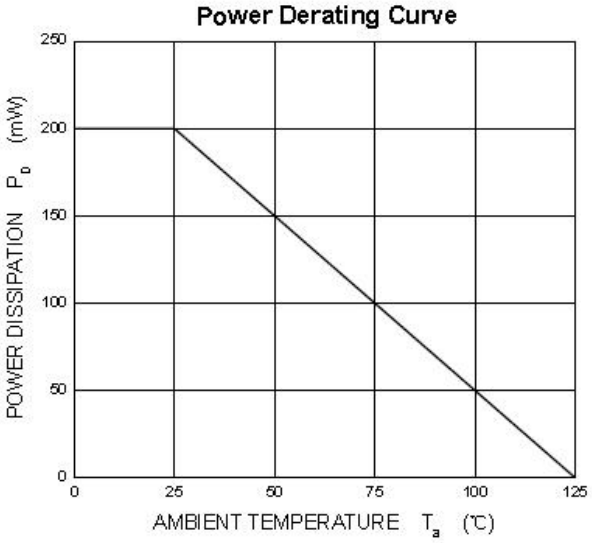
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	125	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	500	°C/W

Ratings and Characteristics Curves







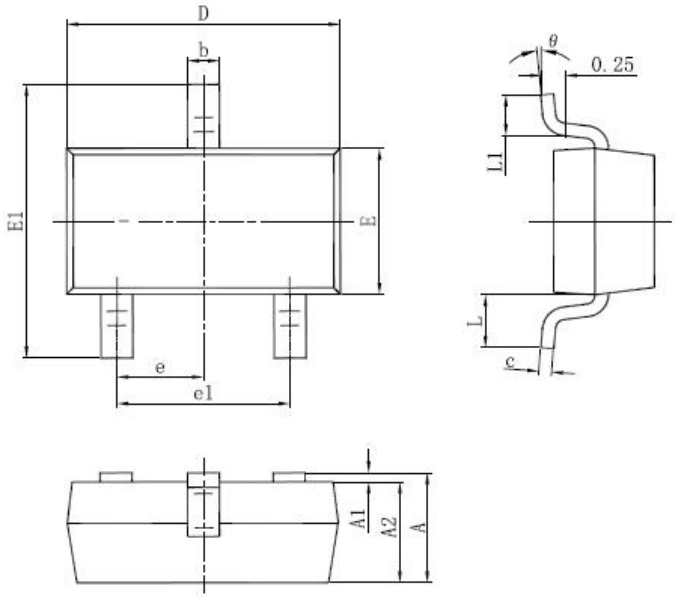


Ordering Information

Device	Package	Shipping
BAT54/A/C/S	SOT-23	3000pcs / reel

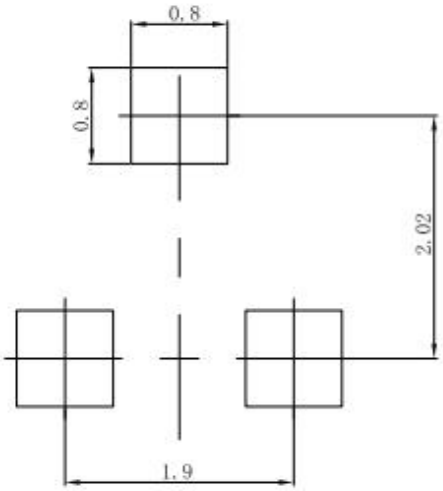
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Mechanical Dimensions SOT-23

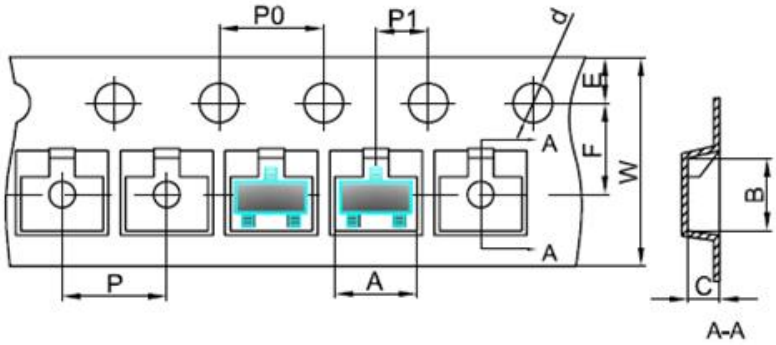


SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	0.890	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.076	0.170	0.003	0.007
D	2.650	3.050	0.104	0.120
E	1.190	1.400	0.047	0.055
E1	2.100	2.550	0.083	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.780	2.050	0.070	0.081
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Soldering Pad Layout (Millimeters)



Carrier Tape Specification SOT-23



SYMBOL	Millimeters	
	Min.	Max.
A	3.05	3.25
B	2.67	2.87
C	1.12	1.32
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30