

SOT23 SILICON EPITAXIAL SCHOTTKY BARRIER DIODES

BAT54 SERIES

ISSUE 1- SEPTEMBER 1995

BAT54	BAT54A	BAT54S	BAT54C	Device Type
SINGLE	COMMON ANODE	SERIES	COMMON CATHODE	Pin Configuration
L4Z	L42	L44	L43	Partmarking Detail

FEATURES: Low V_F & High Current Capability

APPLICATIONS: PSU, Mobile Telecomms & SCSI

ABSOLUTE MAXIMUM RATINGS.

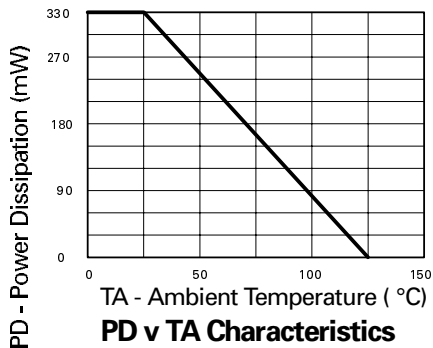
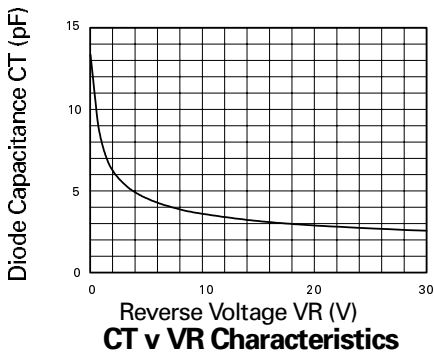
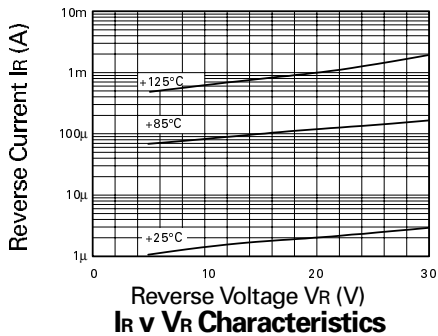
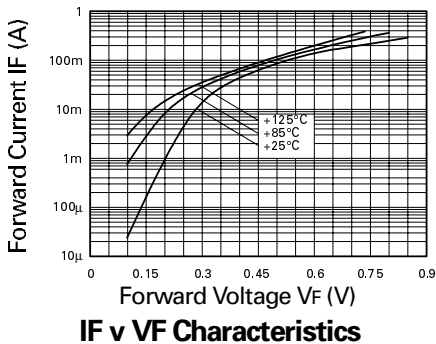
PARAMETER	SYMBOL	VALUE	UNIT
Continuous Reverse Voltage	V_R	30	V
Forward Current	I_F	200	mA
Forward Voltage @ $I_F=10\text{mA}$	V_F	400	mV
Repetitive Peak Forward Current	I_{FRM}	300	mA
Non Repetitive Forward Current $t<1\text{s}$	I_{FSM}	600	mA
Power Dissipation at $T_{amb}=25^\circ\text{C}$	P_{tot}	330	mW
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Junction Temperature \square	T_j	125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{(BR)R}$	30	50		V	$I_R=10\mu\text{A}$
Forward Voltage	V_F		135 200 280 350 530	240 320 400 500 1000	mV mV mV mV mV	$I_F=0.1\text{mA}$ $I_F=1\text{mA}$ $I_F=10\text{mA}$ $I_F=30\text{mA}$ $I_F=100\text{mA}$
Reverse Current	I_R		2.5	4	μA	$V_R=25\text{V}$
Diode Capacitance	C_D		7.5	10	pF	$f=1\text{MHz}, V_R=1\text{V}$
Reverse Recover Time	t_{rr}			5	ns	switched from $I_F=10\text{mA}$ to $I_R=10\text{mA}$ $R_L=100\Omega$, Measured at $I_R=1\text{mA}$

\square Dual Device; For simultaneous continuous use $T_j=100^\circ\text{C}$.

TYPICAL CHARACTERISTICS





Bringing More Power to Diodes



Product Search [xt range vs wide](#)

Keyword Search

New Product Guides

Bringing you next generation devices...

[Buy Now](#)

Discrete



Diodes

- [Schottky Diodes](#)
- [Zener Diodes](#)
- [Switching Diodes](#)
- [Schottky / SBR® Rectifiers](#)
- [DIODESTAR™ \(Diodes 600V PFC Rectifiers\)](#)
- [Standard Rectifiers](#)
- [Fast / Super-Fast / Ultra-Fast Recovery Rectifiers](#)
- [Bridge Rectifiers](#)
- [Power Diodes \(Stack\)](#)
 - [Rectifier Diodes](#)
 - [Power Zener Diodes](#)

SBR® (Super Barrier Rectifiers)

Transistors

- [Transistor \(BJT\) Master Table](#)
 - [Transistors < 25V](#)
 - [Transistors 30V to 50V](#)
 - [Transistors 55V to 100V](#)
 - [Transistors >100V](#)
- [Gate Drivers](#)
- [Avalanche Transistors](#)
- [NPN Pre-Bias Transistors](#)
- [PNP Pre-Bias Transistors](#)

BAT54S(Z)

- [Product description and datasheet](#)
- [Features and applications](#)
- [Product overview specs](#)

- [Ordering information](#)
- [Package outline information](#)
- [Design Tools](#)

Datasheet



also used by BAT54(Z), BAT54A(Z), BAT54C(Z)
[Download Datasheet](#)

Environment Reports

MDS Report Downloads: [1]

Features and Benefits

- Low VF & High Current Capability

Applications

- PSU
- Mobile Telecomms
- SCSI

[Back to Top](#)

Product Overview Specs

- Dual NPN Pre-Bias Transistors
- Dual PNP Pre-Bias Transistors
- NPN + PNP Pre-Bias Transistors
- Darlington Transistors
- Transistor and Schottky Combination
- H-Bridge
- Matched Pairs
- RF Transistors

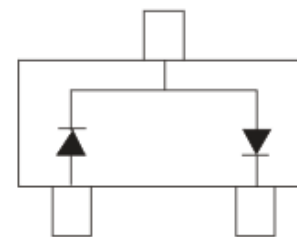
MOSFETs

- N Channel
 - 20V
 - 30V
 - 31V - 99V
 - ≥ 100V
- P Channel
 - 20V
 - 30V
 - 31V - 99V
 - ≥ 100V
- Complementary Pair (N+P)
 - 20V Complementary
 - 30V Complementary
 - 31V to 100V Complementary
- MOSFET plus SBR
- MOSFET plus BJT
- IntelliFET
- H Bridge
- DIOFET™ (Diodes Schottky Integrated MOSFET)

Protection Devices

- Zener TVSs
- Thyristor Surge Protection Devices (TSPDs)
- Data Line Protection

Configuration: Dual, Series



Part Number	BAT54S(Z)
Power Rating (mW)	330
Peak Repetitive Reverse Voltage V_{RRM} (V)	30
Forward Continuous Current I_{FM} (mA)	200
Forward Voltage Drop V_F (V)	0.5
@ I_F (mA)	30
Max Reverse Current I_R (μ A)	4
@ V_R (V)	25
Capacitance C_{TOT} (typ) (pF)	10

[Back to Top](#)

Distributor Stock Information / Buy Now

Part Number	Distributor	Quantity	Inventory Date	Buy Online	Region
-------------	-------------	----------	----------------	------------	--------

For available inventory on this part, please check with your local Distributor or Sales Representative.

[Back to Top](#)

Functional Arrays

- Relay Drivers
- Discrete - Load Switches
- Discrete - Voltage Regulators
- Discrete - LED Drive Solutions

Analog

Power Management ICs

- Switching regulators
 - DC-DC Converters (Internal switch)
 - Buck
 - Boost
 - Buck/Boost/Inverter
 - DC-DC Controllers (External switch)
 - Buck
 - Boost
 - Buck/Boost/Inverter

Linear Regulators

- Standard linear regulators
- Single LDOs
- Dual LDOs

Power Switches

- Load switches
- USB switches
 - Single channel
 - Dual channel

Power Supply Control

- Synchronous MOSFET Controller
- Active OR'ing Controller

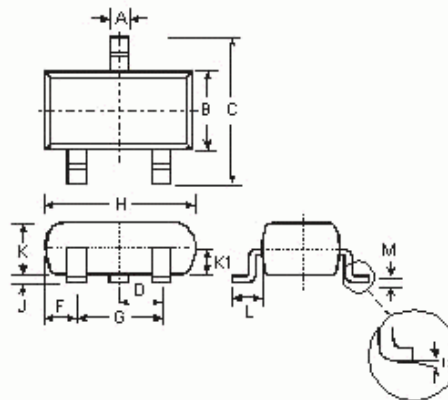
Chargers

Linear/Amps

- Op Amps
 - General purpose
 - High speed

Package Outline Information

- SOT23



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

[Back to Top](#)

Design Tools

- [Parametric Search](#)
- [Application Notes](#)
- [Design Notes](#)
- [Cross Reference](#)
- [Calculators](#)
- [Simulators / Examples](#)
- [Spice Models](#)

[Back to Top](#)

Products You Recently Viewed

[Product description and datasheet](#)

[Ordering information](#)

- Comparators
- Current Monitors
 - Current output
 - Voltage output
- Voltage References
 - Shunt regulators
 - Shunt references
- Special functions
 - Timer ICs
 - Reset Generators
 - Siren Driver
 - Low Power Motor Control ICs
 - Current Mirror

Lighting ICs

- Lighting ICs for displays
 - Backlight Driver ICs
 - LCD and OLED Bias Generators
- High Brightness LED Drivers
 - LED Driver with Internal Switch
 - LED Driver with External Switch

Audio

- Direct Digital Feedback Amplifiers (DDFA™)
- Analog input amplifiers

DBS

- GaAs FET bias generators
 - Fixed bias generators
 - Switched bias generators
- DBS Controllers
 - Multiplexer controllers
 - Interfaces
 - Power Management
- Integrated IF switch matrix with gain and control

Features and applications
Product overview specs

Package outline information
Additions

Sensors

Temperature sensors

AMR sensors

Angular

Hall Effect

Switches

Unipolar

Omnipolar

Bipolar latches

Single output

Complementary
output

Smart Fan Driver

Logic

Single Gate

© Copyright Diodes Incorporated. All rights reserved. [Mobile Version](#)
[Trademarks](#) | [Privacy Policy](#) | [Terms of Use](#)

PowerDI and SBR are registered trademarks of Diodes Incorporated.

Recommend use of latest browser versions, e.g. Safari 4.0.2, Chrome 0.4.154.25 & later, IE6.0 & later, Mozilla FireFox 1.5 & later. Find free upgrades at www.apple.com/safari or www.google.com/chrome or <http://www.microsoft.com/> or <http://www.mozilla.com/>
For optimum viewing, recommend a resolution of 1280x768px.