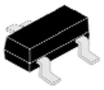
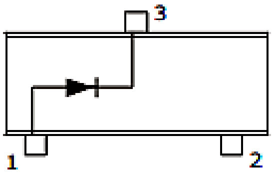
Continental Device India Pvt. Limited
An IATF 16949, ISO9001 and ISO 14001 Certified Company

SILICON PLANAR SWITCHING DIODE

BAS16



SOT-23



SOT-23 Formed
SMD Package
RoHS compliant

Marking

BAS16 = A6

APPLICATION: High-Speed Switching Diodes

ABSOLUTE MAXIMUM RATINGS (Ta = 25 ℃ Unless otherwise specified)

PARAMETER		SYMBOL	VALUE	UNIT
Continuous Reverse Voltage		V_R	75	V
Repetitive Peak Reverse Voltage		V_{RRM}	85	V
Forward Current (DC)		I_F	215	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non Repetitive Peak Forward Current (Per Crystal)	t=1µs	I_{FSM}	4.0	A
	t=1ms		1.0	
	t=1s		0.5	
Power Dissipation @ Ta=25ºC		P_D	0.25	W
Storage Temperature Range		P_{tot}	-55 to +150	°C
Junction Temperature		T_j	150	°C

Thermal Resistance

Junction to Ambient in free fair	$R_{th\ (j\text{-}a)}$	500	K/W

ELECTRICAL CHARACTERISTICS at (Ta = 25 ℃ Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	VALUE			UNIT
			MIN	TYP	MAX	
Forward Voltage	V_F	I_F = 1mA	--	--	0.715	V
		I_F = 10mA	--	--	0.855	V
		I_F = 50mA	--	--	1.0	V
		I_F = 150mA	--	--	1.25	V
Reverse Voltage Leakage Current	I_R	V_R=25V, T_j=150ºC	--	--	30	µA
		V_R=75V	--	--	1.0	µA
		V_R=75V, T_j=150ºC	--	--	50	µA
Diode Capacitance	C_d	V_R=0V, f=1MHz	--	--	2.0	pF
Forward Recovery Voltage	V_{fr}	When Switched to I_F=10mA, t_P=20ns	--	--	1.75	V
Reverse Recovery Time	t_{rr}	When Switched from I_F=10mA to I_R=60mA, R_L100 Ω, measured at I_R=1mA	--	--	4.0	ns
Recovery Charge	Q_S	I_F=10mA , V_R=5V, R_L=100 Ω	--	--	45	pC

TYPICAL CHARACTERISTIC CURVES

Fig 1: Forward Voltage

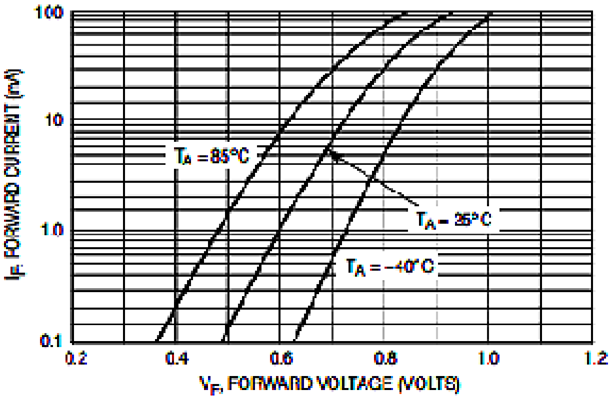


Fig 2: Leakage Current

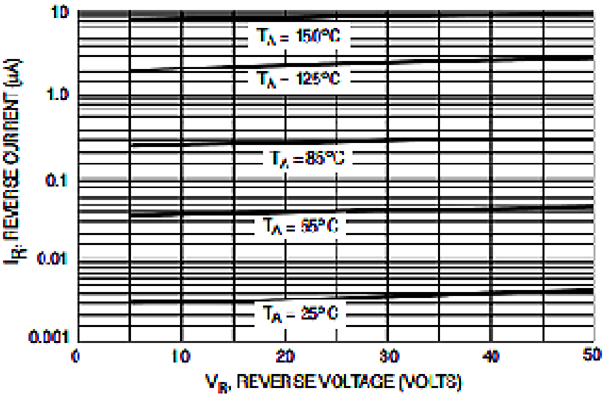


Fig 3: Capacitance

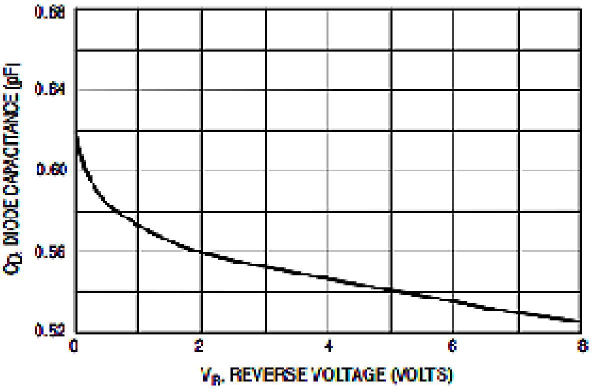
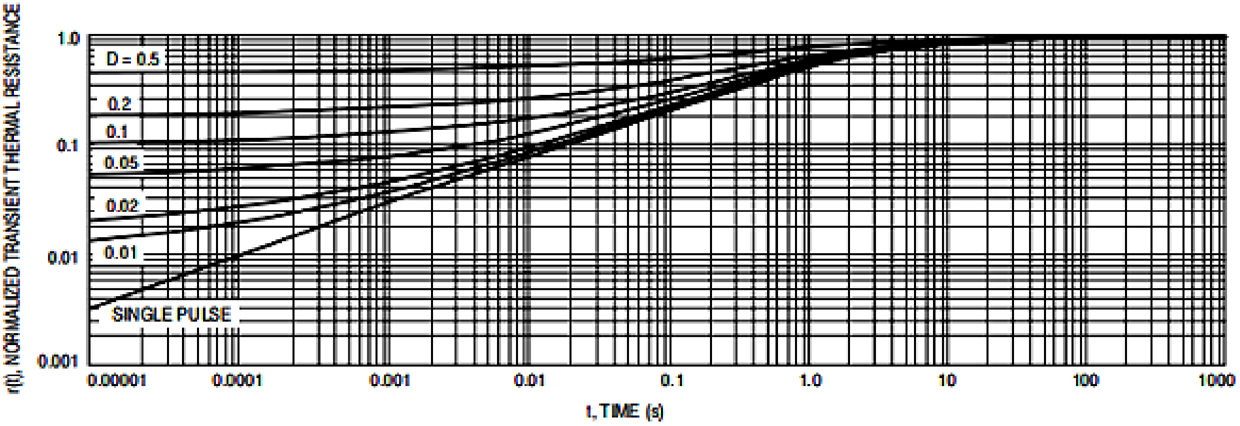
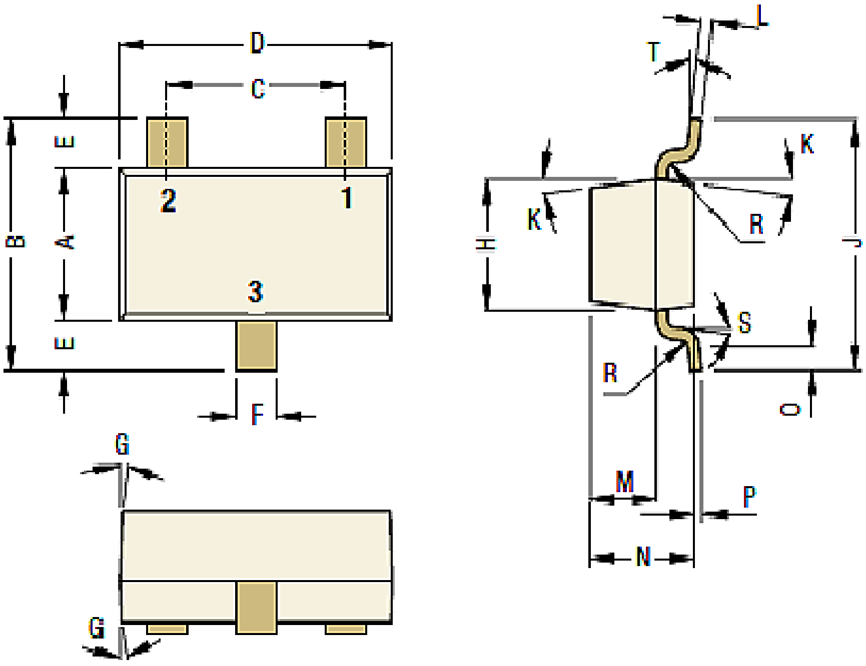


Fig 4: Normalized Thermal Response



PACKAGE DETAILS

SOT-23 Formed SMD Package

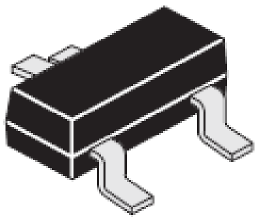


DIM	MIN	MAX
A	1.20	1.40
B	2.10	2.64
C	1.85	1.95
D	2.80	3.04
E	0.54	0.67
F	0.30	0.50
G	3 DEG	
H	--	1.30
J	2.10	2.64
K	7 DEG	
L	0.08	0.20
M	0.58	0.62
N	0.70	1.02
O	0.21	--
P	0.02	0.15
R	--	0.08
S	2°	8°
T	2°	10°

All dimensions are in mm

Pin Configuration

1. ANODE
2. NC
3. CATHODE



Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down. They should not be placed against the wall.

Shelf Life of CDIL Products

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.
If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.
The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

Floor Life of CDIL Products and MSL Level

When the products are opened from the original packing, the floor life will start.

For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	**Time**	**Condition**
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH

Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).
CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.

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