BAT54LP

DFN 1.0X0.6-2L Plastic-Encapsulate Schottky Barrier Diode

FEATURES

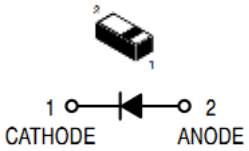
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Leadless Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)

MARKETS

- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

MECHANICAL DATA

- Case: DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Dot
- Terminals: Finish - NiPdAu annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.001 grams (approximate)



Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.goodark.com for more information about Good-Ark's definitions of Halogen and Antimony-free, "Green" and Lead-free.
3. For packaging details, go to our website at http://www.goodark.com.

Maximum Ratings (Ta=25℃ unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	30	V
I_F	Forward Continuous Current	200	mA
I_{FRM}	Repetitive Peak Forward Current	300	mA
I_{FSM}	Forward Surge Current @ t < 1.0s	600	mA

Thermal Characteristics

Symbol	Parameter	Value	Unit
P_D	Power Dissipation (Note 4)	250	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air (Note 4)	400	℃/W
T_J	Operating Temperature Range	-55~+125	℃
T_{STG}	Storage Temperature Range	-65~+150	℃

Electrical Characteristics (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	I_R = 100μA	30	-	-	V
Forward Voltage	V_F	I_F = 0.1mA I_F = 1mA I_F = 10mA I_F = 30mA I_F = 100mA	-	-	240 320 400 500 1000	mV
Reverse Leakage Current (Note 5)	I_R	V_R = 25V			2.0	uA
Total Capacitance	C_T	V_R = 1.0V, f = 1.0MHz			10	pF
Reverse Recovery Time	T_{rr}	I_F=10mA through I_R= 10mA to I_R = 1.0mA, R_L = 100Ω			5.0	nS

Notes:

4. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com

5. Short duration pulse test used to minimize self-heating effect.

Pb
Pb-free Plating

Electrical characteristic curves (Ta=25℃ unless otherwise specified)

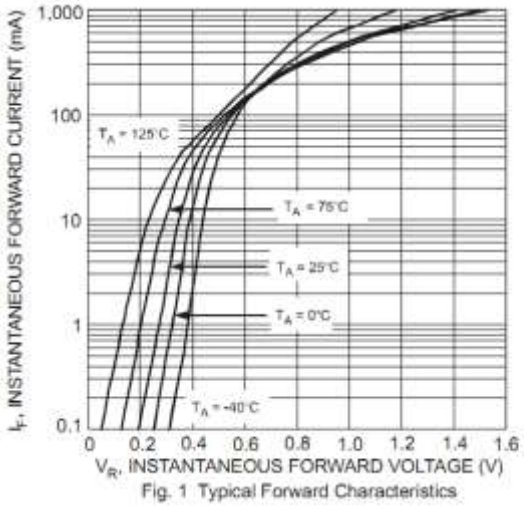


Fig. 1 Typical Forward Characteristics

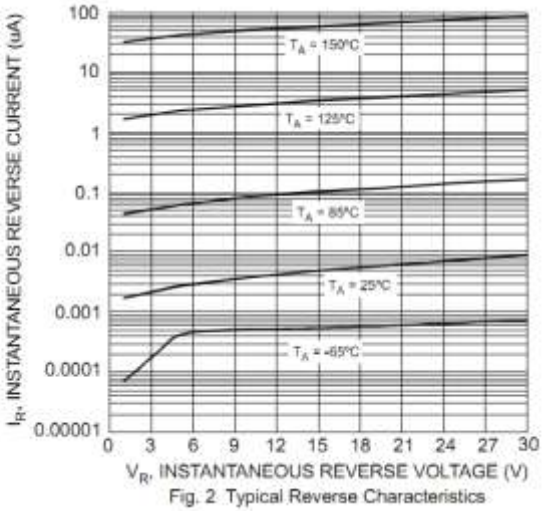


Fig. 2 Typical Reverse Characteristics

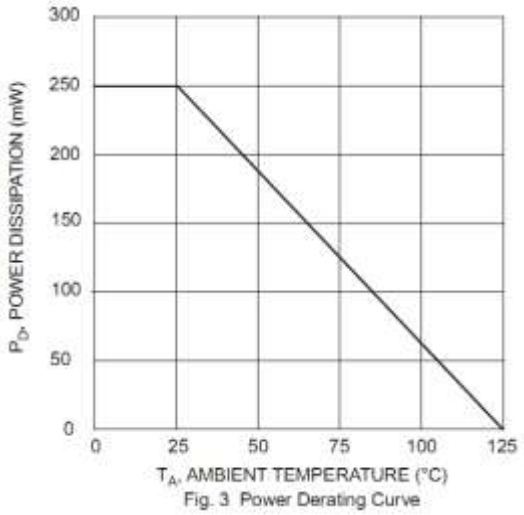


Fig. 3 Power Derating Curve

Pb
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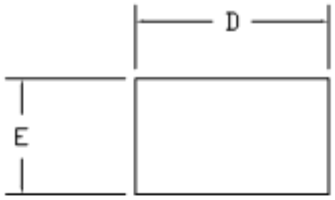
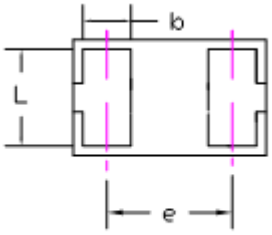
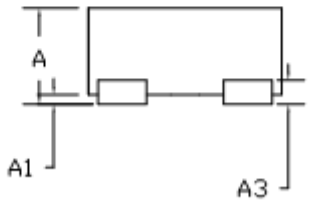
DFN 1.0X0.6-2L Package Outline Dimensions



TOP VIEW



BOTTOM VIEW

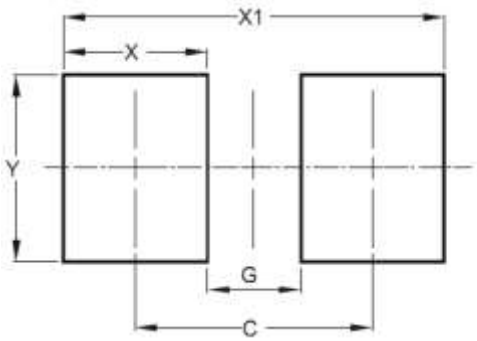


SIDE VIEW

COMMON DIMENSIONS(MM)			
PKG.	X1=EXTREME THIN		
REF.	MIN.	NOM.	MAX
A	>0.4	-	0.50
A1	0.00	-	0.05
A3	0.125REF.		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.20	0.25	0.30
L	0.45	0.50	0.55
	-	-	-
	-	-	-
e	0.65 BSC		

Lead finish: NiPdAu

DFN 1.0X0.6-2L Suggested Pad Layout



Dimensions	Value (in mm)
C	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70

Pb-free Plating