

BAS21GW6

Surface Mount, High Voltage, Switching Diodes

Voltage	250 V	Power	250 mW
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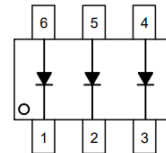
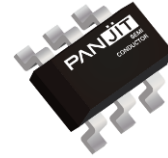
Features

- High reverse beardown voltage.
- Fast switching speed.
- Low reverse leakage current.
- Surface mount package ideally suited for automatic insertion.
- Galvanically isolated dual configurations to save board space.
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : SOT-23 6L plastic case
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0142 grams

SOT-23 6L



ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum reverse voltage	V_R	250	V
Peak reverse voltage	V_{RRM}	250	V
Average rectified current at temp=25 °C	I_o	0.2	A
Non-repetitive peak forward surge current at t=1us	I_{FSM}	4	A

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THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_{TOT}	250	mW
Power dissipation ^(Note 3)	P_{TOT}	500	mW
Typical thermal resistance ^(Note 1)	$R_{\theta JA}$	357	°C/W
Typical thermal resistance ^(Note 3)	$R_{\theta JA}$	250	°C/W
Typical thermal resistance ^(Note 2)	$R_{\theta JC}$	250	°C/W
	$R_{\theta JL}$	285	
Junction temperature range	T_J	150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Notes : 1. Mounted on a FR-4 PCB, single-sided copper, standard footprint.

2. Mounted on a FR-4 PCB, single-sided copper, with 100cm² copper pad area.

3. $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins mounted on a 1 inch FR-4 with 2oz. square pad of copper.

ELECTRICAL CHARACTERISTICS ($T_J=25\text{ }^\circ\text{C}$, unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP	MAX.	UNIT
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	250	-	-	V
Reverse current	I_R	$V_R=200\text{V}$	-	-	0.1	μA
		$V_R=200\text{V } T_J=150^\circ\text{C}$	-	-	100	
Forward voltage	V_F	$I_F=1\text{mA}$	-	-	0.7	V
		$I_F=100\text{mA}$	-	-	1	
Maximum junction capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$	-	-	5	pF
Reverse recovery time	T_{RR}	$I_F = I_R=30\text{mA}$ $R_L=100\Omega$	-	-	50	ns

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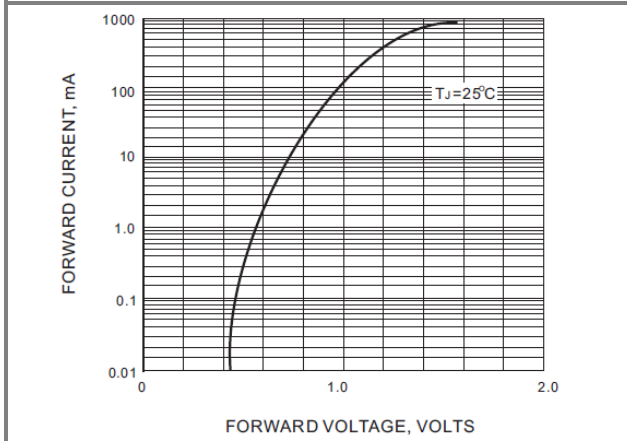


Fig.1 Typical Forward Characteristic

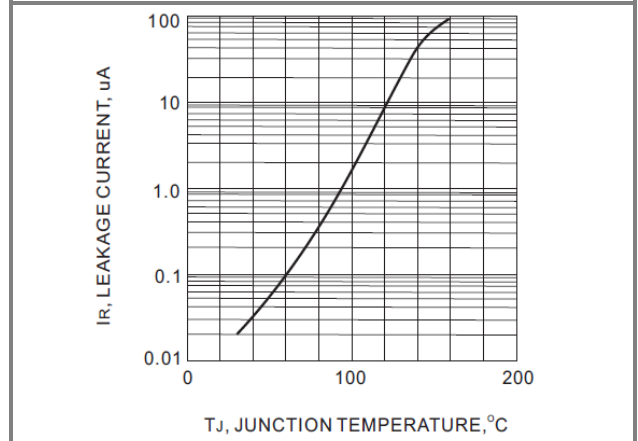


Fig.2 Leakage Current VS. Junction Temperature

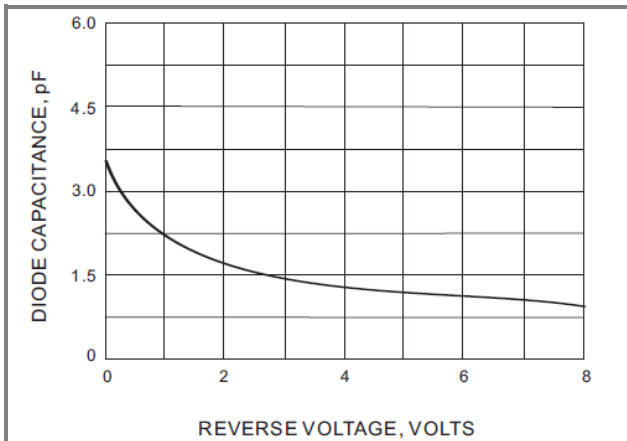


Fig.3 Typical Junction Capacitance

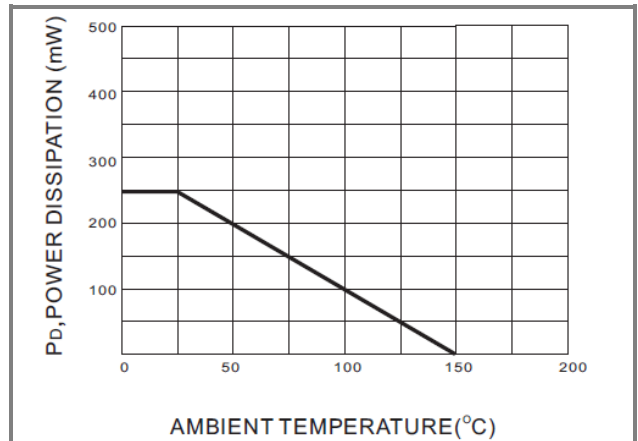


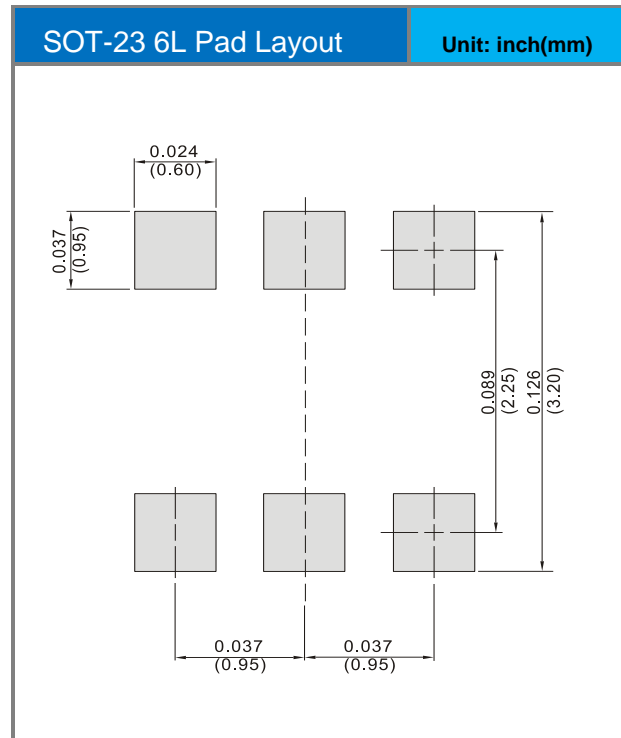
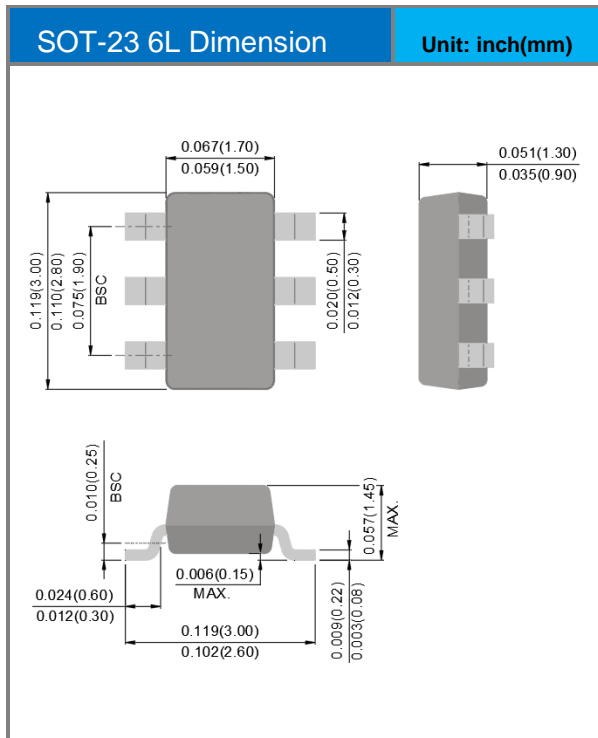
Fig.4 Power Derating Curve

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
BAS21GW6	SOT-23 6L	3K pcs / 7" reel	21G
BAS21GW6	SOT-23 6L	10K pcs / 13" reel	21G

Packaging Information & Mounting Pad Layout



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