

Schottky barrier (double) diodes**BAS40W series****FEATURES**

- Low forward voltage
- Guard ring protected
- Very small SMD package
- Low diode capacitance.

APPLICATIONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Blocking diodes.

DESCRIPTION

Planar Schottky barrier diodes encapsulated in a SOT323 very small plastic SMD package. Single diodes and double diodes with different pinning are available.

MARKING

TYPE NUMBER	MARKING CODE
BAS40W	63
BAS40-04W	64
BAS40-05W	65
BAS40-06W	66

PINNING

PIN	BAS40			
	W	-04W	-05W	-06W
1	a ₁	a ₁	a ₁	k ₁
2	n.c.	k ₂	a ₂	k ₂
3	k ₁	k ₁ , a ₂	k ₁ , k ₂	a ₁ , a ₂

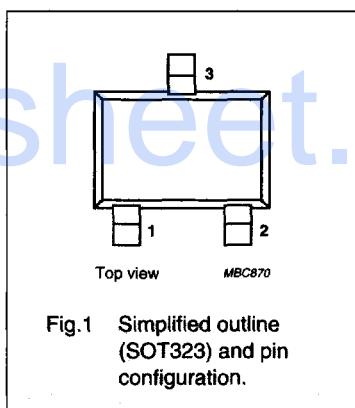


Fig.1 Simplified outline (SOT323) and pin configuration.

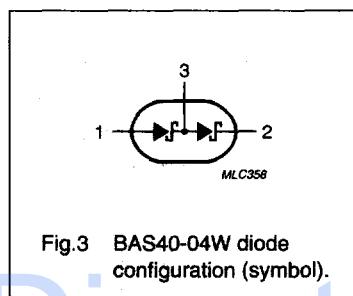


Fig.3 BAS40-04W diode configuration (symbol).

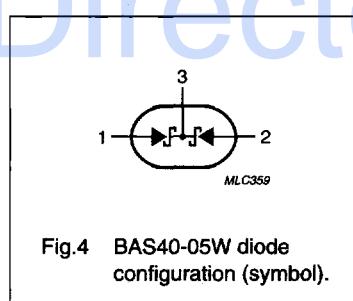


Fig.4 BAS40-05W diode configuration (symbol).

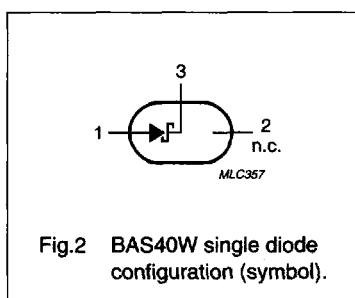


Fig.2 BAS40W single diode configuration (symbol).

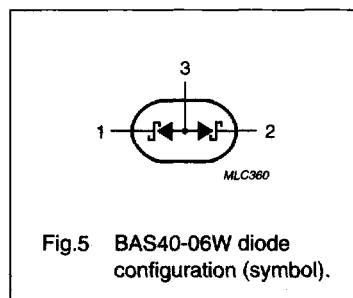


Fig.5 BAS40-06W diode configuration (symbol).

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LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per diode					
V_R	continuous reverse voltage		-	40	V
I_F	continuous forward current		-	120	mA
I_{FRM}	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	-	120	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10 \text{ ms}$	-	200	mA
T_{stg}	storage temperature		-65	+150	°C
T_j	junction temperature		-	150	°C
T_{amb}	operating ambient temperature		-65	+150	°C

ELECTRICAL CHARACTERISTICS $T_{amb} = 25 \text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
Per diode				
V_F	continuous forward voltage	see Fig.6 $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 15 \text{ mA}$	380 500 1	mV mV V
I_R	continuous reverse current	$V_R = 30 \text{ V}; \text{ note 1; see Fig.7}$ $V_R = 40 \text{ V}; \text{ note 1; see Fig.7}$	1 10	μA μA
τ	charge carrier life time	$I_F = 5 \text{ mA}; \text{ Krakauer method}$	100	ps
C_d	diode capacitance	$V_R = 0 \text{ V}; f = 1 \text{ MHz}; \text{ see Fig.9}$	5	pF

Note

- Pulsed test: $t_p = 300 \mu\text{s}; \delta = 0.02$.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R_{thj-a}	thermal resistance from junction to ambient	note 1	625	K/W

Note

- Refer to SOT323 standard mounting conditions.

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GRAPHICAL DATA

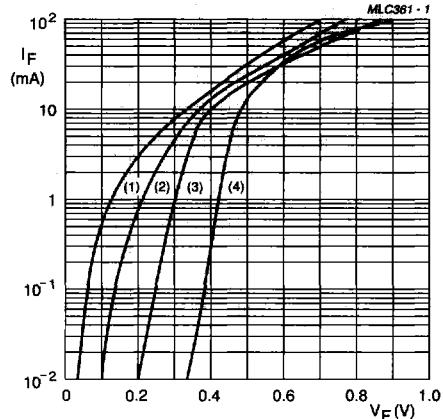


Fig.6 Forward current as a function of forward voltage; typical values.

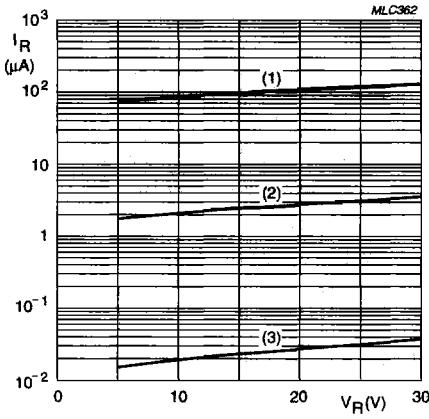


Fig.7 Reverse current as a function of reverse voltage; typical values.

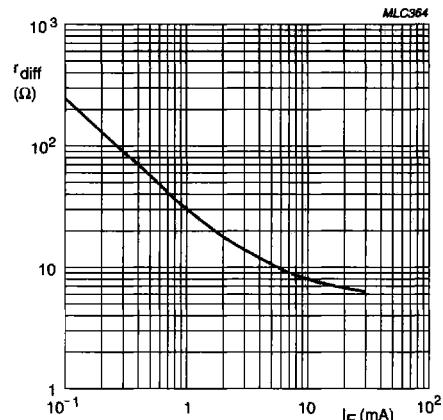


Fig.8 Differential forward resistance as a function of forward current; typical values.

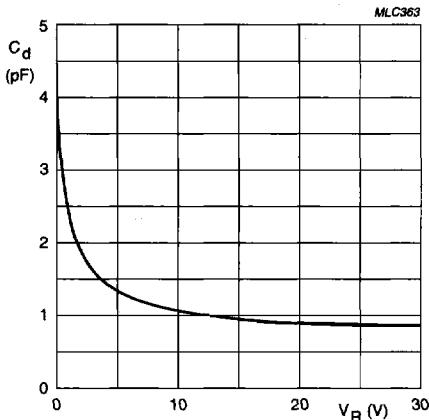


Fig.9 Diode capacitance as a function of reverse voltage; typical values.