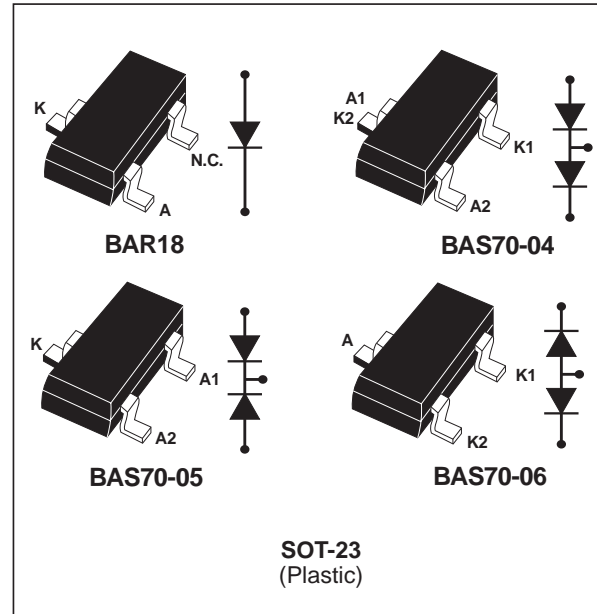


## SMALL SIGNAL SCHOTTKY DIODES



### DESCRIPTION

Low turn-on and high breakdown voltage diodes intended for ultrafast switching and UHF detectors in hybrid micro circuits.

### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive peak reverse voltage	70	V
$I_F$	Continuous forward current	70	mA
$P_{tot}$	Power dissipation (note 1)	$T_{amb} = 25^\circ\text{C}$ 250	mW
$T_{stg}$	Maximum storage temperature range	- 65 to +150	$^\circ\text{C}$
$T_j$	Maximum operating junction temperature *	150	$^\circ\text{C}$
$T_L$	Maximum temperature for soldering during 10s	260	$^\circ\text{C}$

**Note 1:** for double diodes,  $P_{tot}$  is the total dissipation of both diodes

$$* : \frac{dP_{tot}}{dT_j} < \frac{1}{R_{th(j-a)}} \text{ thermal runaway condition for a diode on its own heatsink}$$

### THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient (*)	500	$^\circ\text{C/W}$

(\*) Mounted on epoxy board with recommended pad layout.

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$V_{BR}$	$T_j = 25^\circ\text{C}$ $I_R = 10\mu\text{A}$	70			V
$V_F^*$	$T_j = 25^\circ\text{C}$ $I_F = 1\text{mA}$			410	mV
$I_R^{**}$	$T_j = 25^\circ\text{C}$ $V_R = 50\text{V}$			200	nA

Pulse test: \*  $t_p = 380\mu\text{s}$ ,  $\delta < 2\%$   
 \*\*  $t_p = 5\text{ms}$ ,  $\delta < 2\%$

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ\text{C}$ $V_R = 0\text{V}$ $F = 1\text{MHz}$			2	pF
$\tau^*$	$T_j = 25^\circ\text{C}$ $I_F = 5\text{mA}$ Krakauer Method			100	ps

\* Effective carrier life time.

Fig. 1-1: Forward voltage drop versus forward current (low level).

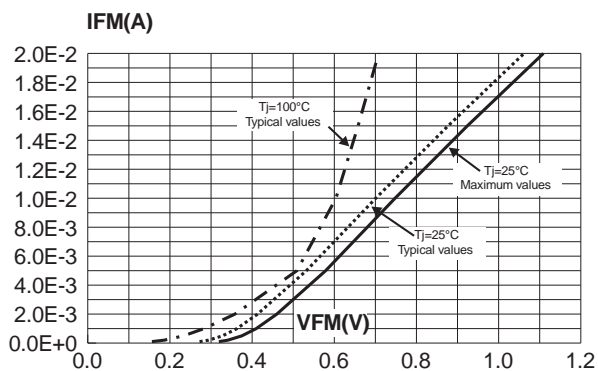
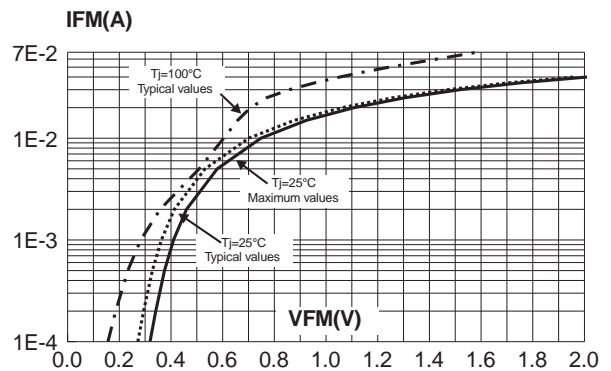
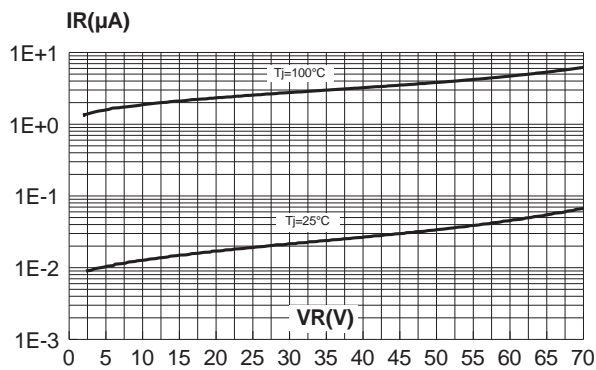


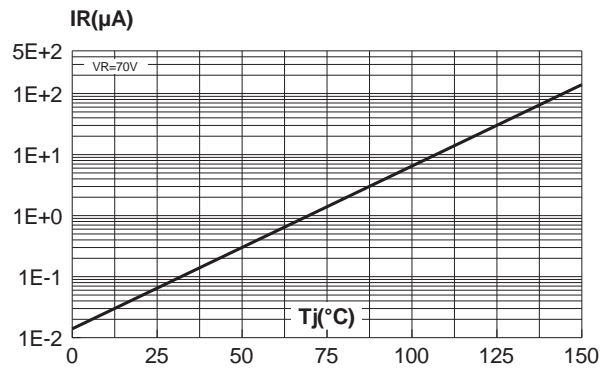
Fig. 1-2: Forward voltage drop versus forward current (high level).



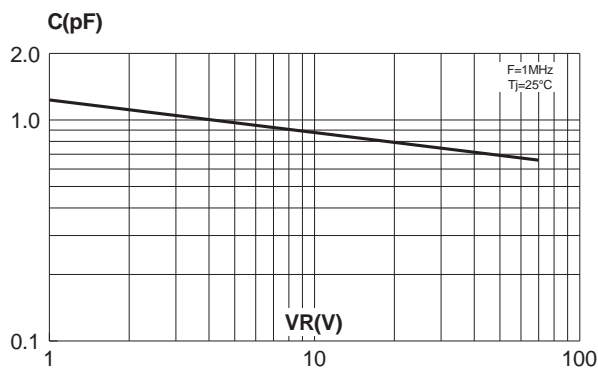
**Fig. 2:** Reverse leakage current versus reverse voltage applied (typical values).



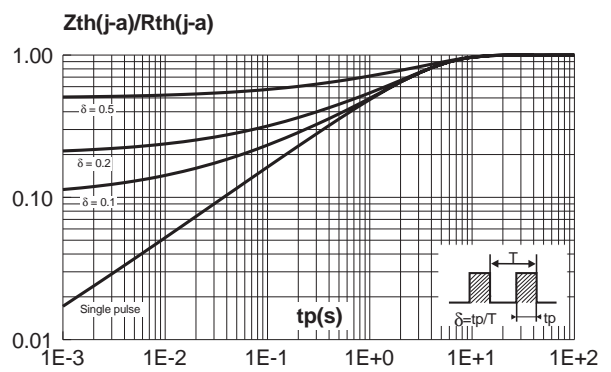
**Fig. 3:** Reverse leakage current versus junction temperature (typical values)



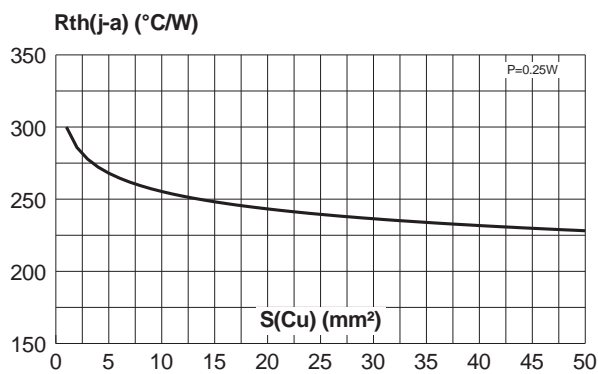
**Fig. 4:** Junction capacitance versus reverse voltage applied (typical values).



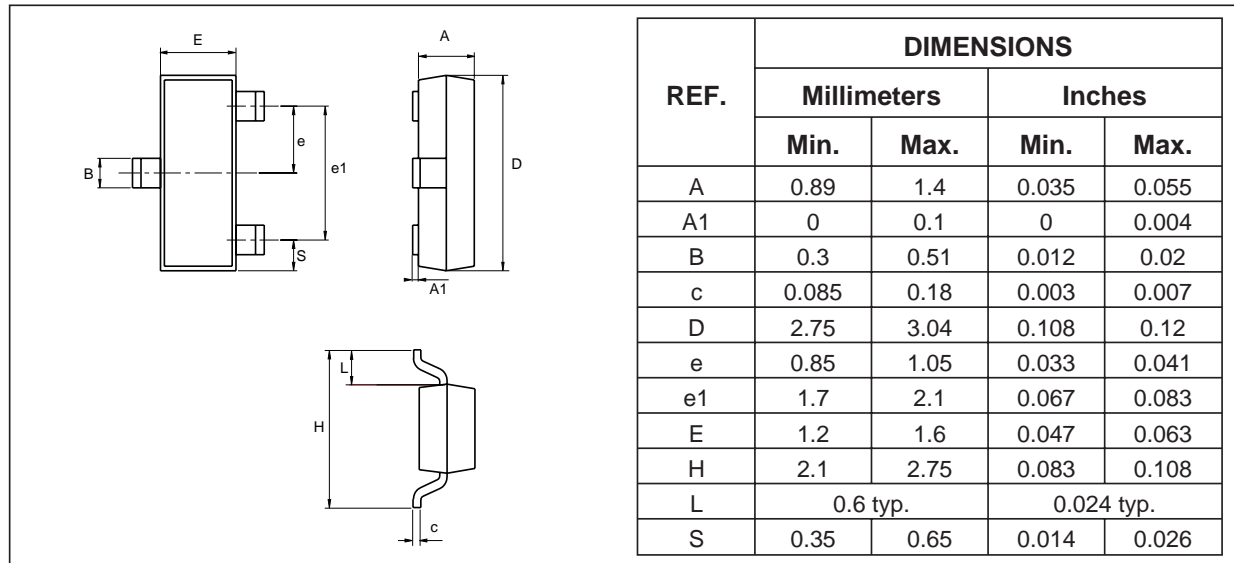
**Fig. 5:** Relative variation of thermal impedance junction to ambient versus pulse duration (alumine substrate 10mm\*8mm\*0.5mm).



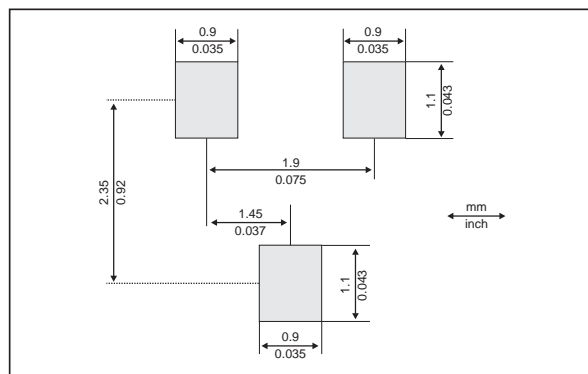
**Fig. 6:** Thermal resistance junction to ambient versus copper surface under each lead (Epoxy printed circuit board FR4, copper thickness: 35 $\mu m$ ).



**PACKAGE MECHANICAL DATA**  
SOT23 (Plastic)



**FOOTPRINT DIMENSIONS**



Ordering type	Marking	Package	Weight	Base qty	Delivery mode
BAR18	D76	SOT-23	0.01g	3000	Tape & reel
BAS70-04	D96	SOT-23	0.01g	3000	Tape & reel
BAS70-05	D97	SOT-23	0.01g	3000	Tape & reel
BAS70-06	D98	SOT-23	0.01g	3000	Tape & reel

- Epoxy meets UL94,V0

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