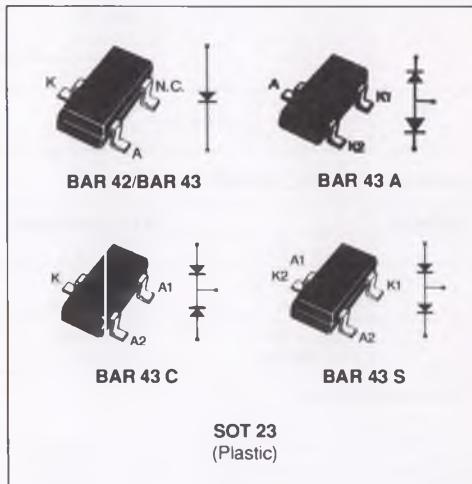


## SMALL SIGNAL SCHOTTKY DIODES



### DESCRIPTION

General purpose, metal to silicon diodes featuring very low turn-on voltage and fast switching.

### ABSOLUTE RATINGS (limiting values) ( $T_{amb} = 25^\circ\text{C}$ ) (see note 1)

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	30	V
$I_F$	Forward Current	100	mA
$I_{FRM}$	Repetitive Peak Forward Current	350	mA
$I_{FSM}$	Surge non Repetitive Forward Current	750	mA
$P_{tot}$	Power Dissipation* (see note 2)	160	mW
$T_{sig}$ $T_j$	Storage and Junction Temperature Range	-55 to 150 125	°C °C

### THERMAL RESISTANCES (see note 3)

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction-ambient*	625	°C/W
$R_{th(j-SR)}$	Junction-substrate	400	°C/W

\* Mounted on ceramic substrate : 7 x 5 x 0.5mm

- Notes :**
- For double diodes maximum ratings apply to each diode, provided that rated  $P_{tot}$  is not exceeded.
  - For double diodes,  $P_{tot}$  is the total power dissipation of the two diodes.
  - For double diodes,  $R_{th}$  refer to the total power dissipation in the two diodes and is given independently of the power distribution in the two diodes.

**ELECTRICAL CHARACTERISTICS****STATIC CHARACTERISTICS**

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
V <sub>(BR)</sub>	T <sub>amb</sub> = 25°C I <sub>R</sub> = 100µA			30			V
V <sub>F</sub>	T <sub>amb</sub> = 25°C	BAR 42	I <sub>F</sub> = 10mA		0.35	0.4	V
			I <sub>F</sub> = 50mA		0.5	0.65	
		BAR 43	I <sub>F</sub> = 2mA	0.26		0.33	
			I <sub>F</sub> = 15mA			0.45	
		All	I <sub>F</sub> = 100mA			1	
I <sub>R</sub>	T <sub>amb</sub> = 25°C	V <sub>R</sub> = 25V				500	nA
	T <sub>amb</sub> = 100°C			100	µA		

**DYNAMIC CHARACTERISTICS**

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	T <sub>amb</sub> = 25°C	V <sub>R</sub> = 1V	f = 1MHz		7		pF
t <sub>rr</sub>	T <sub>amb</sub> = 25°C I <sub>rr</sub> = 1mA	I <sub>F</sub> = 10mA	I <sub>R</sub> = 10mA R <sub>L</sub> = 100Ω			5	ns
η*	T <sub>amb</sub> = 25°C F = 45MHz	R <sub>L</sub> = 15kΩ V <sub>I</sub> = 2V	C <sub>L</sub> = 300pF for BAR 43	80			%

\* Detection efficiency.

Type	BAR 42	BAR 43	BAR 43A	BAR 43C	BAR 43 S
Marking	D94	D95	DB1	DB2	DA5

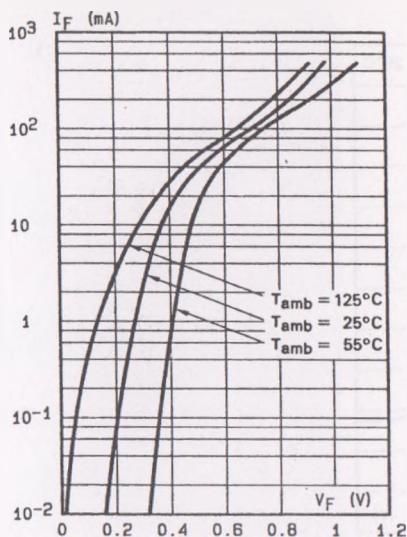


Fig.1 - Forward current versus forward voltage at different temperatures (typical values).

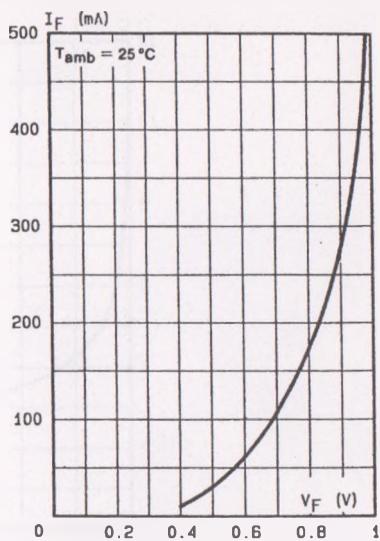


Fig.2 - Forward current versus forward voltage (typical values).

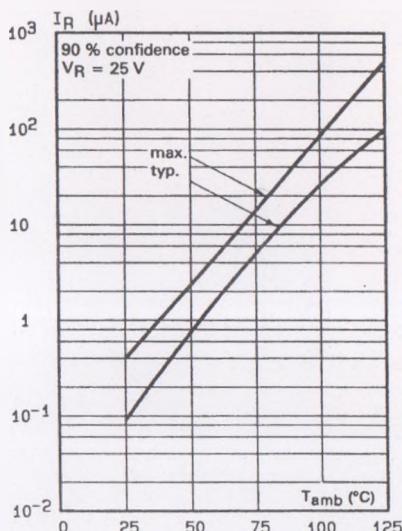


Fig.3 - Reverse current versus junction temperature.

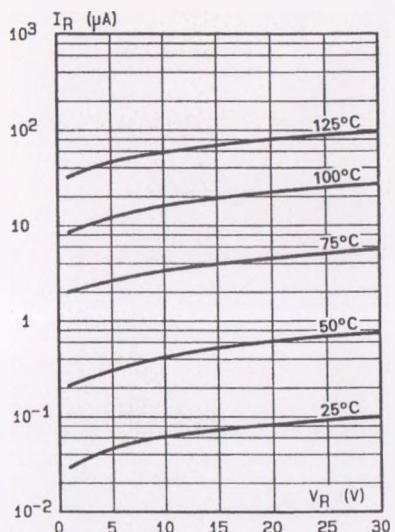


Fig.4 - Reverse current versus continuous reverse voltage (typical values).

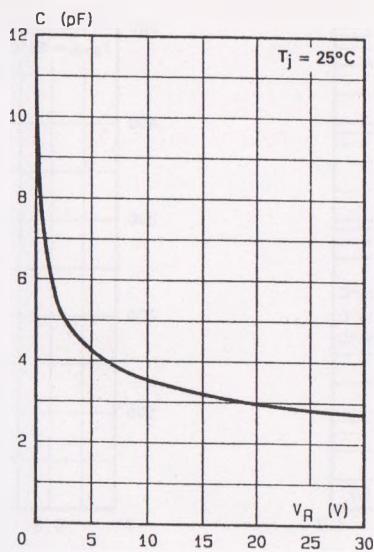


Fig.5 - Capacitance  $C$  versus  
reverse applied voltage  $V_R$   
(typical values).