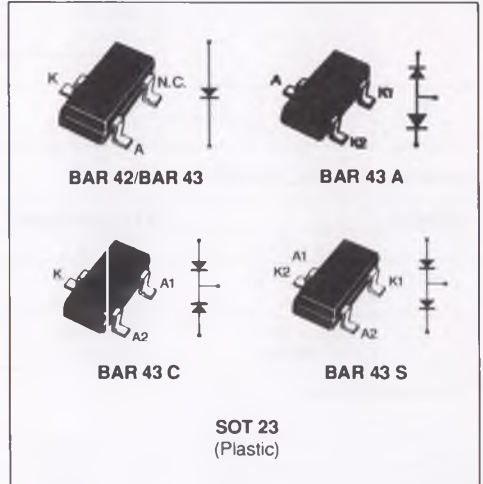


## SMALL SIGNAL SCHOTTKY DIODES


**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
$T_{stg}$	Storage and Junction Temperature Range	- 55 to 150	$^{\circ}\text{C}$
$T_j$		125	$^{\circ}\text{C}$

**THERMAL RESISTANCES** (see note 3)

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

\* Mounted on ceramic substrate :  $7 \times 5 \times 0.5\text{mm}$ .

**Notes :** 1 For double diodes maximum ratings apply to each diode, provided that rated  $P_{tot}$  is not exceeded.

2 For double diodes,  $P_{tot}$  is the total power dissipation of the two diodes.

3 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
$V_{(BR)}$	$T_{amb} = 25^{\circ}C$	$I_R = 100\mu A$		30			V
$V_F$	$T_{amb} = 25^{\circ}C$	BAR 42	$I_F = 10mA$		0.35	0.4	V
			$I_F = 50mA$		0.5	0.65	
		BAR 43	$I_F = 2mA$	0.26		0.33	
			$I_F = 15mA$			0.45	
All	$I_F = 100mA$			1			
$I_R$	$T_{amb} = 25^{\circ}C$	$V_R = 25V$				500	nA
	$T_{amb} = 100^{\circ}C$					100	$\mu A$

**DYNAMIC CHARACTERISTICS**

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	$T_{amb} = 25^{\circ}C$	$V_R = 1V$	$f = 1MHz$		7		pF
$t_{rr}$	$T_{amb} = 25^{\circ}C$ $I_{rr} = 1mA$	$I_F = 10mA$ $R_L = 100\Omega$	$I_R = 10mA$			5	ns
$\eta^*$	$T_{amb} = 25^{\circ}C$ $F = 45MHz$	$R_L = 15k\Omega$ $V_i = 2V$	$C_L = 300pF$ for BAR 43	80			%

\* Detection efficiency.

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

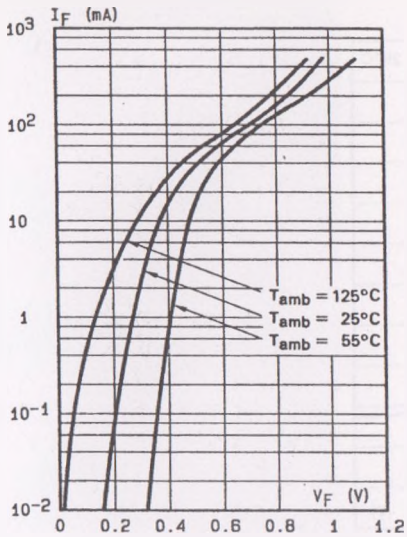


Fig.1 - Forward current versus forward voltage at different temperatures (typical values).

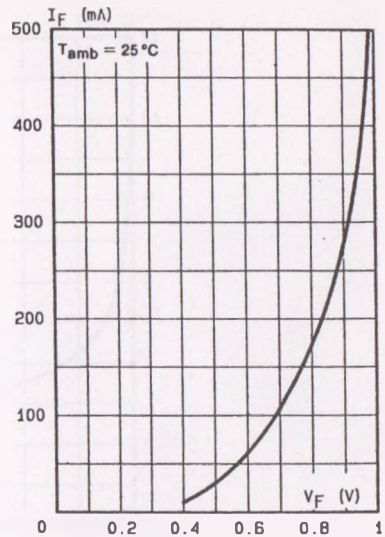


Fig.2 - Forward current versus forward voltage (typical values).

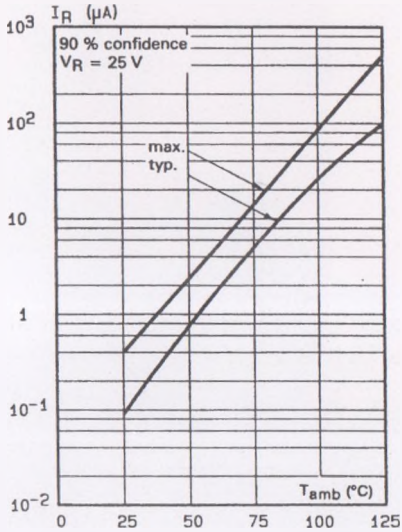


Fig.3 - Reverse current versus junction temperature.

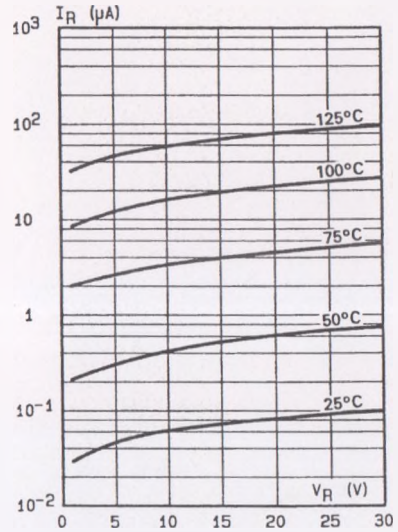


Fig.4 - Reverse current versus continuous reverse voltage (typical values).

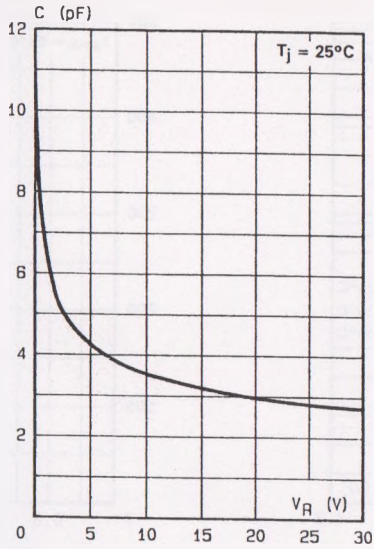


Fig.5 - Capacitance  $C$  versus reverse applied voltage  $V_R$  (typical values).