

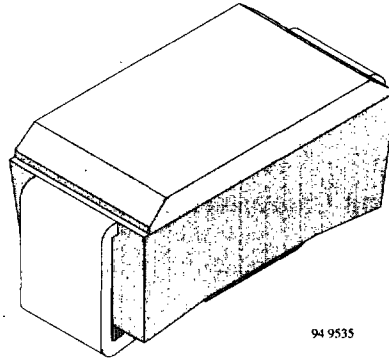
Schottky Barrier Rectifier

Features

- High efficiency
- Low power losses
- Very low switching losses
- Low reverse current
- High surge capability

Applications

Polarity protection
Low voltage, high frequency rectifiers



94 9535

Absolute Maximum Ratings

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage		BYS10-25	V_{RRM}	25	V
		BYS10-35	V_{RRM}	35	V
		BYS10-45	V_{RRM}	45	V
Reverse voltage		BYS10-25	V_R	25	V
		BYS10-35	V_R	35	V
		BYS10-45	V_R	45	V
Peak forward surge current	$t_p = 10\text{ms}$, half sinewave		I_{FSM}	30	A
Average forward current			I_{FAV}	1.5	A
Junction temperature			T_j	150	$^\circ\text{C}$
Storage temperature range			T_{stg}	-55...+150	$^\circ\text{C}$

Maximum Thermal Resistance

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction lead	$T_L = \text{constant}$	R_{thJL}	25	K/W
Junction ambient	mounted on epoxy-glass hard tissue, Fig. 1a	R_{thJA}	150	K/W
	mounted on epoxy-glass hard tissue, Fig. 1b	R_{thJA}	125	K/W
	mounted on Al-oxid-ceramic (Al_2O_3), Fig. 1b	R_{thJA}	100	K/W

Characteristics

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 1\text{A}$		V_F			500	mV
Reverse current	$V_R = V_{RRM}$		I_R			500	μA
	$V_R = V_{RRM}, T_j = 100^\circ\text{C}$		I_R			10	mA

Typical Characteristics ($T_j = 25^\circ\text{C}$ unless otherwise specified)

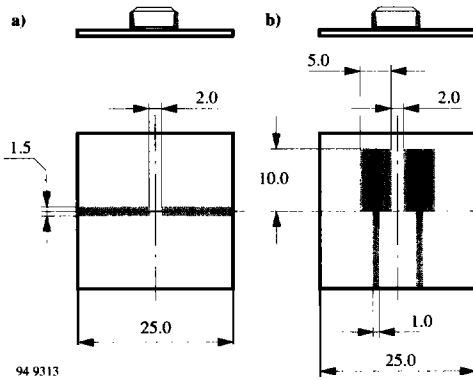


Figure 1. Boards for R_{thJA} definition (copper overlay 35μ)

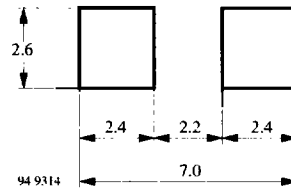


Figure 2. Recommended foot pads (in mm)

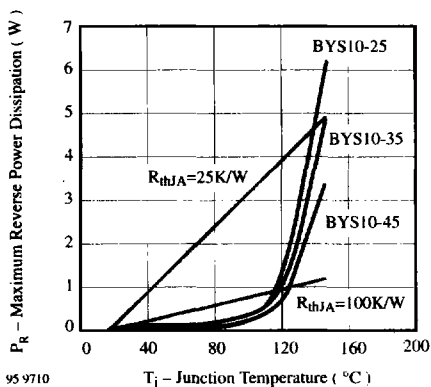


Figure 3. Maximum Reverse Power Dissipation vs. Junction Temperature

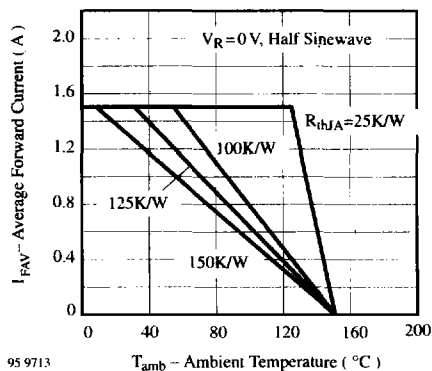


Figure 6. Average Forward Current vs. Ambient Temperature

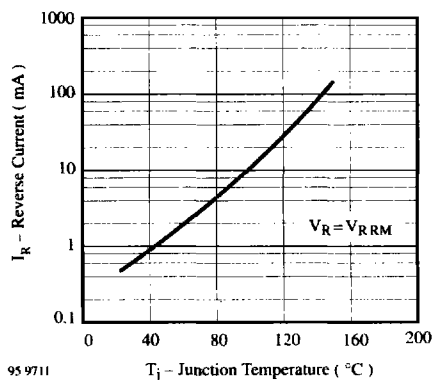


Figure 4. Reverse Current vs. Junction Temperature

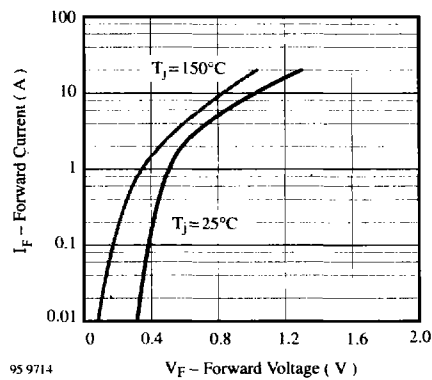


Figure 7. Forward Current vs. Forward Voltage

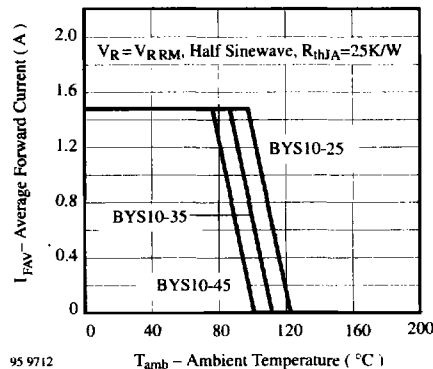


Figure 5. Average Forward Current vs. Ambient Temperature

Dimensions in mm

