

SMALL SIGNAL SCHOTTKY DIODES

DESCRIPTION

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

These devices have integrated protection against excessive voltage such as electrostatic discharges.


ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	30	V
I_F	Forward Continuous Current	$T_I = 25^\circ\text{C}$ 200	mA
I_{FRM}	Repetitive Peak Forward Current	$t_p \leq 1\text{s}$ $\delta \leq 0.5$ 500	mA
I_{FSM}	Surge non Repetitive Forward Current	$t_p = 10\text{ms}$ 4	A
P_{TOT}	Power Dissipation	$T_I = 65^\circ\text{C}$ 200	mW
T_{stg}	Storage and Junction Temperature Range	- 65 to 150	$^\circ\text{C}$
T_I		- 65 to 125	$^\circ\text{C}$
T_L	Maximum Temperature for Soldering during 15s	260	$^\circ\text{C}$

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-l)}$	Junction-leads	300	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS
STATIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)}$	$T_j = 25^\circ\text{C}$	$I_R = 100\mu\text{A}$	30			V
V_F^*	$T_j = 25^\circ\text{C}$	$I_F = 200\text{mA}$	All Types		1	V
	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$	BAT 42		0.4	
	$T_j = 25^\circ\text{C}$	$I_F = 50\text{mA}$			0.65	
	$T_j = 25^\circ\text{C}$	$I_F = 2\text{mA}$	BAT 43		0.33	
	$T_j = 25^\circ\text{C}$	$I_F = 15\text{mA}$			0.45	
I_R^*	$T_j = 25^\circ\text{C}$	$V_R = 25\text{V}$			0.5	μA
	$T_j = 100^\circ\text{C}$				100	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ\text{C}$	$V_R = 1\text{V}$ $f = 1\text{MHz}$		7		pF
t_{rr}	$T_j = 25^\circ\text{C}$	$I_F = 10\text{mA}$ $I_R = 10\text{mA}$ $i_{rr} = 1\text{mA}$ $R_L = 100\Omega$			5	ns
η	$T_j = 25^\circ\text{C}$	$R_L = 15\text{K}\Omega$ $C_L = 300\text{pF}$ $f = 45\text{MHz}$ $V_i = 2\text{V}$	80			%

* Pulse test : $t_p \leq 300\mu\text{s}$ $\delta < 2\%$.

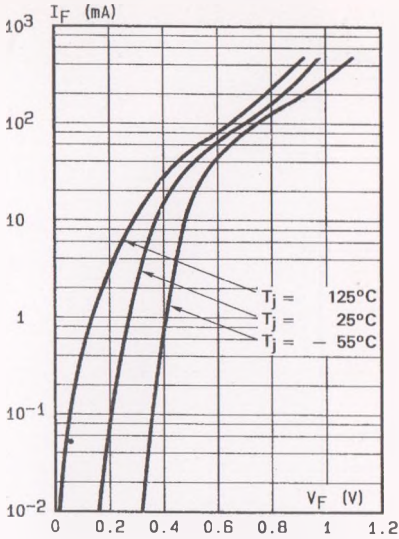


Fig.1 - Forward current versus forward voltage at different temperatures (typical values).

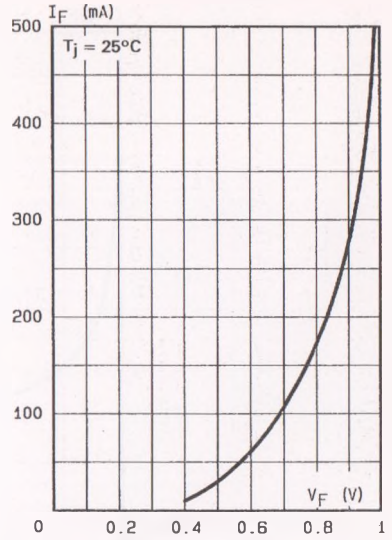


Fig.2 - Forward current versus forward voltage (typical values).

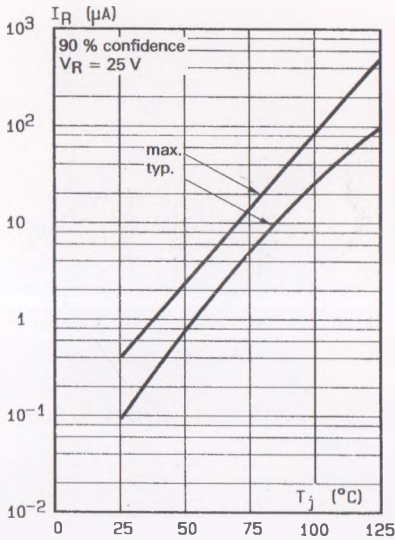


Fig.3 - Reverse current versus junction temperature.

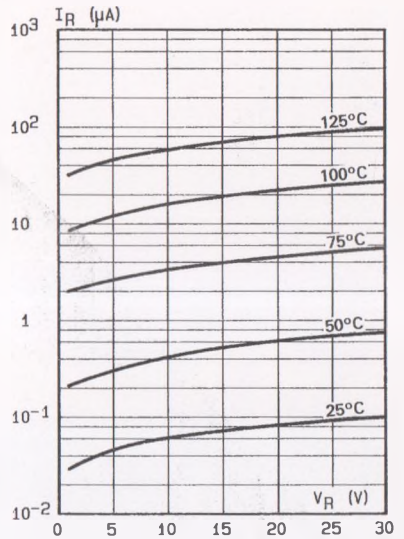


Fig.4 - Reverse current versus continuous reverse voltage (typical values).

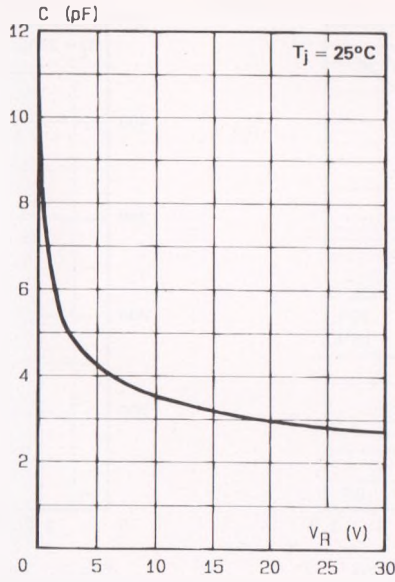


Fig.5 - Capacitance C versus reverse applied voltage V_R (typical values) .