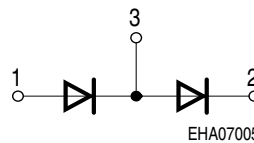
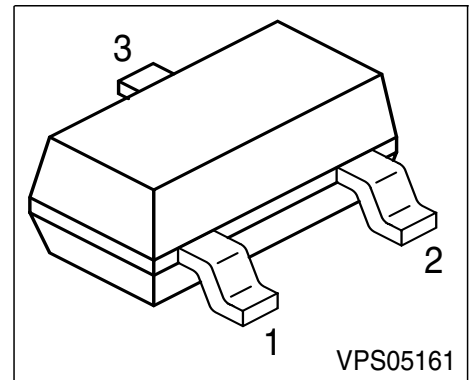


Silicon Switching Diode Array

- For high-speed switching applications
- Connected in series



Type	Marking	Pin Configuration			Package
SMBD 7000	s5C	1 = A1	2 = C2	3=C1/A2	SOT-23

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	100	V
Peak reverse voltage	V_{RM}	100	
Forward current	I_F	200	mA
Surge forward current, $t = 1 \mu s$	I_{FS}	4.5	A
Total power dissipation, $T_S = 31^\circ C$	P_{tot}	330	mW
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

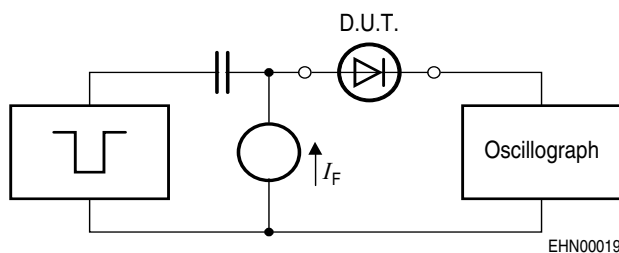
Junction - ambient ¹⁾	R_{thJA}	≤ 500	K/W
Junction - soldering point	R_{thJS}	≤ 360	

1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 6cm² Cu

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)} = 100 \mu A$	$V_{(BR)}$	100	-	-	V
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 100 \text{ mA}$	V_F	550 670 750	- - -	700 820 1100	mV
Reverse current $V_R = 50 \text{ V}$ $V_R = 100 \text{ V}$	I_R	- -	- -	300 500	nA
Reverse current $V_R = 50 \text{ V}$, $T_A = 150 \text{ }^{\circ}\text{C}$	I_R	-	-	100	μA
AC characteristics					
Diode capacitance $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_D	-	-	2	pF
Reverse recovery time $I_F = 10 \text{ mA}$, $I_R = 10 \text{ mA}$, $R_L = 100 \Omega$, measured at $I_R = 1\text{mA}$	t_{rr}	-	-	15	ns

Test circuit for reverse recovery time

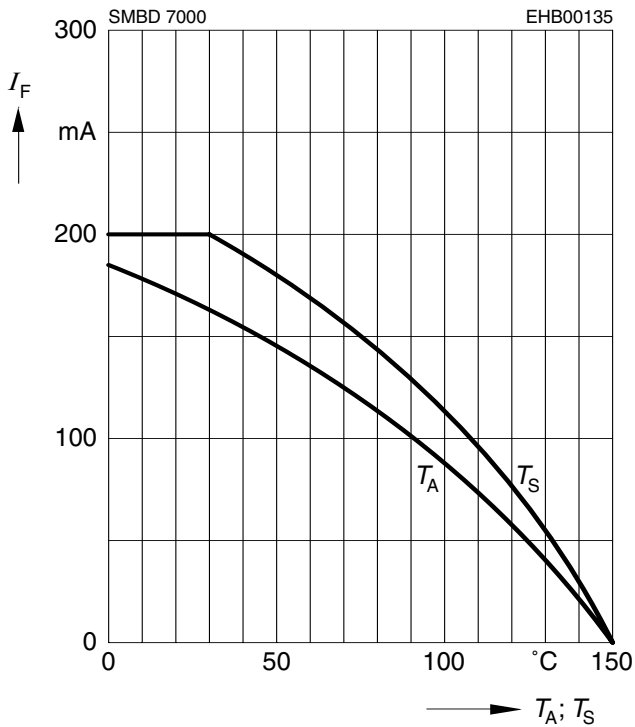


Pulse generator: $t_p = 100 \text{ ns}$, $D = 0.05$,
 $t_r = 0.6 \text{ ns}$, $R_i = 50 \Omega$

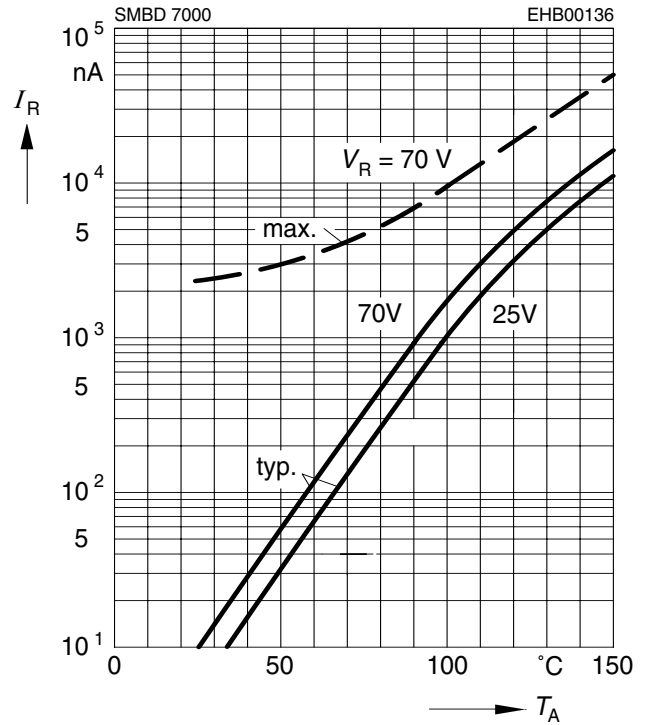
Oscilloscope: $R = 50 \Omega$, $t_r = 0.35 \text{ ns}$,
 $C \leq 1 \text{ pF}$

Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy

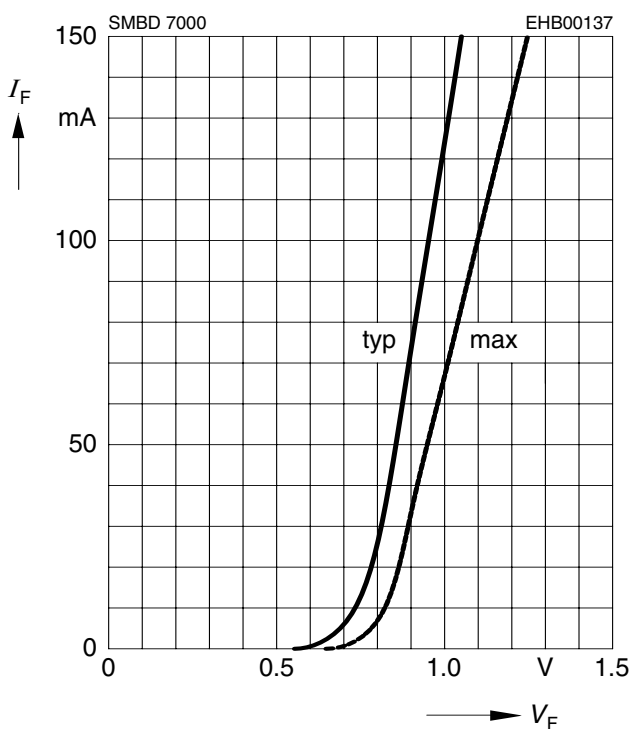


Reverse current $I_R = f(T_A)$



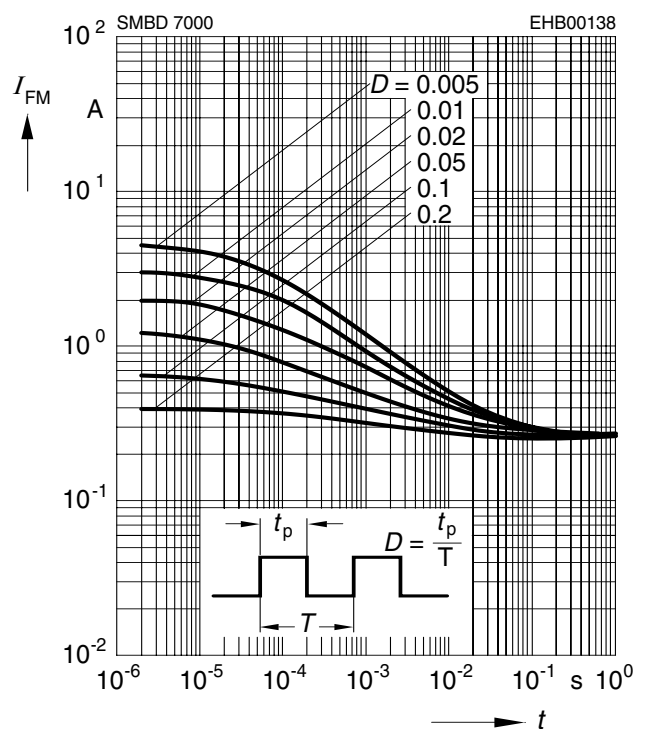
Forward current $I_F = f(V_F)$

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



Peak forward current $I_{FM} = f(t_p)$

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



Forward voltage $V_F = f(T_A)$

