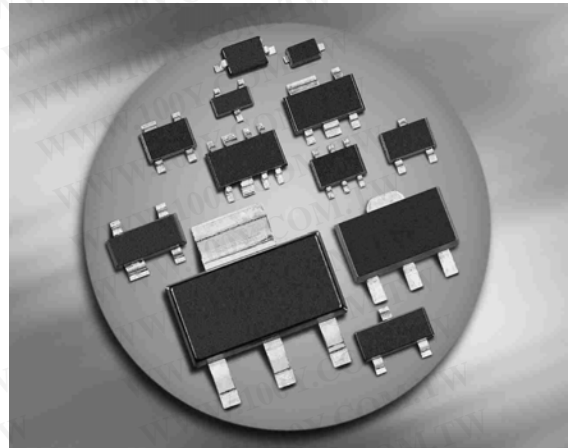


### Silicon Schottky Diode

- Low barrier diode for detectors up to GHz frequencies



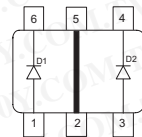
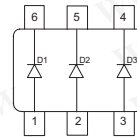
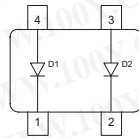
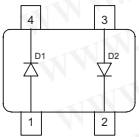
**BAT62**

**BAT62-02L**  
**BAT62-02W**  
**BAT62-03W**

**BAT62-07W**  
**BAT62-07L4**

**BAT62-08S**

**BAT62-09S**



**ESD: Electrostatic discharge sensitive device, observe handling precaution!**

Type	Package	Configuration	$L_s$ (nH)	Marking
BAT62	SOT143	anti-parallel pair	2	62s
BAT62-02L *	TSLP-2-1	single, leadless	0.4	L
BAT62-02W	SCD80	single	0.6	62
BAT62-03W	SOD323	single	1.8	L
BAT62-07L4	TSLP-4-4	parallel pair, leadless	0.4	62
BAT62-07W	SOT343	parallel pair	1.8	62s
BAT62-08S	SOT363	parallel triple	1.6	62s
BAT62-09S*	SOT363	parallel pair, high isolation	1.6	69s

\*Preliminary Data

**Maximum Ratings at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	40	V
Forward current	$I_F$	20	mA
Total power dissipation	$P_{tot}$		mW
BAT62, $T_S \leq 85^\circ\text{C}$		100	
BAT62-02L, -07L4, -03W, $T_S \leq 108^\circ\text{C}$		100	
BAT62-02W, $T_S \leq 109^\circ\text{C}$		100	
BAT62-07W, $T_S \leq 103^\circ\text{C}$		100	
BAT62-08S, -09S, $T_S \leq 105^\circ\text{C}$		100	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BAT62		$\leq 650$	
BAT62-02L, -07L4, -03W		$\leq 420$	
BAT62-02W		$\leq 410$	
BAT62-07W		$\leq 470$	
BAT62-08S		$\leq 450$	
BAT62-09S		$\leq tbd$	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current $V_R = 40\text{ V}$	$I_R$	-	-	10	$\mu\text{A}$
Forward voltage $I_F = 2\text{ mA}$	$V_F$	-	0.58	1	V
Forward voltage matching <sup>2)</sup> $I_F = 2\text{ mA}$	$\Delta V_F$	-	-	20	mV

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

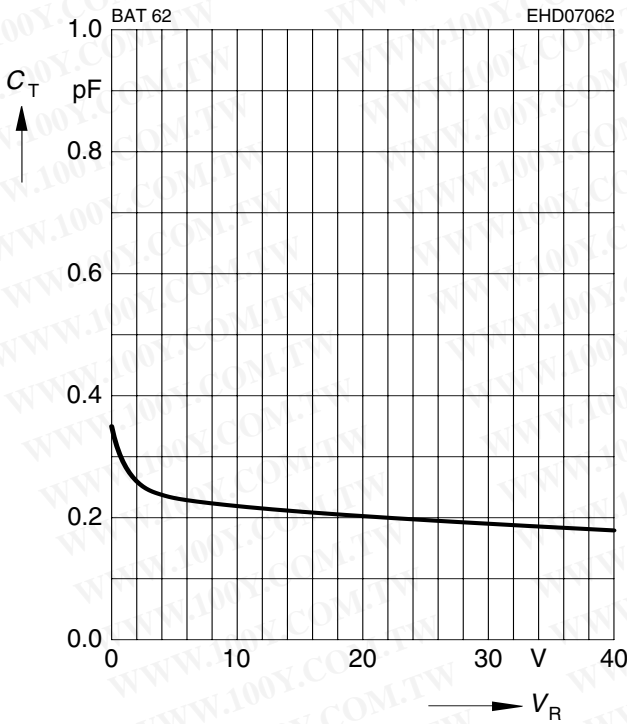
<sup>2)</sup> $\Delta V_F$  is the difference between lowest and highest  $V_F$  in a multiple diode component.

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>AC Characteristics</b>					
Diode capacitance $V_R = 0\text{ V}, f = 1\text{ MHz}$	$C_T$	-	0.35	0.6	pF
Differential resistance $V_R = 0\text{ V}, f = 10\text{ kHz}$	$R_0$	-	225	-	k $\Omega$

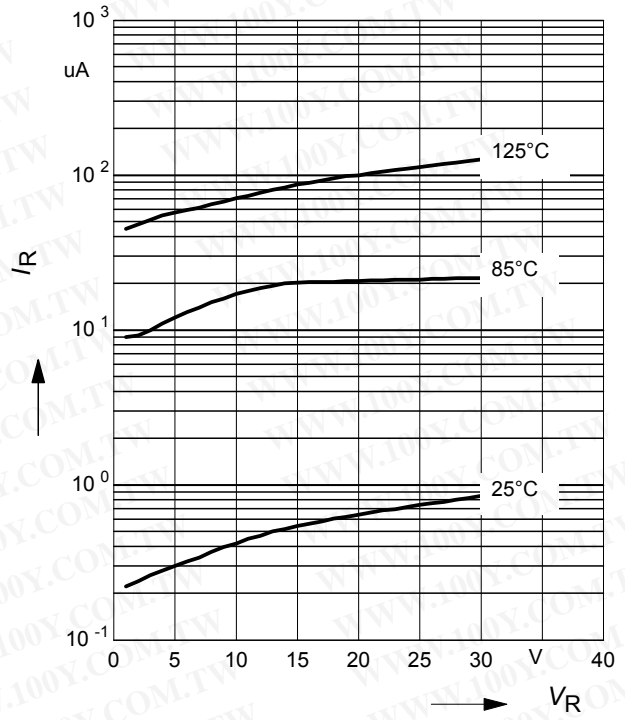
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



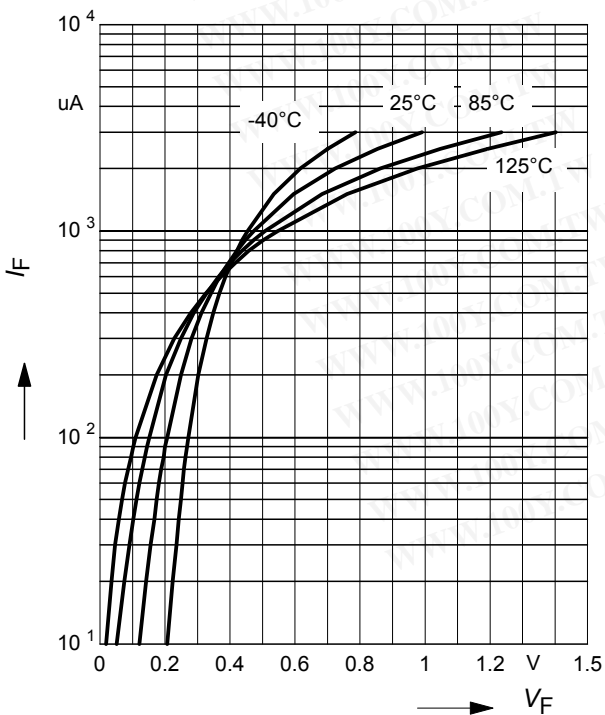
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



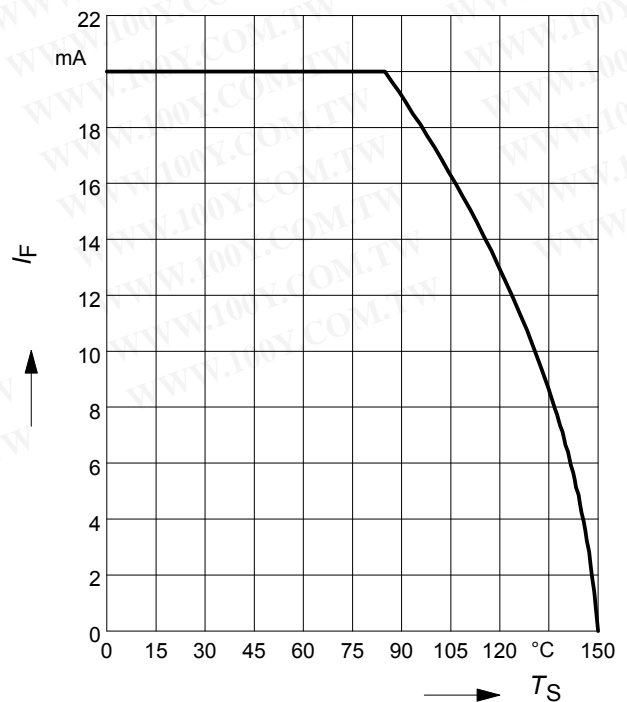
**Forward current  $I_F = f(V_F)$**

$T_A = \text{Parameter}$



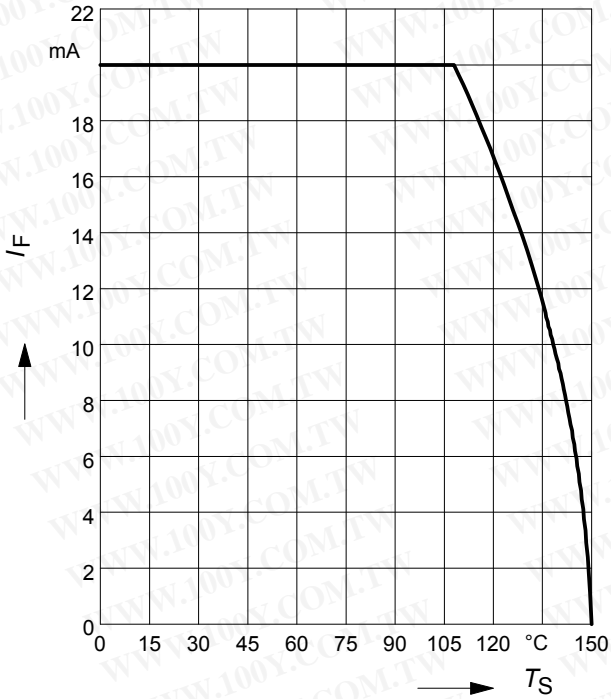
**Forward current  $I_F = f(T_S)$**

BAT62



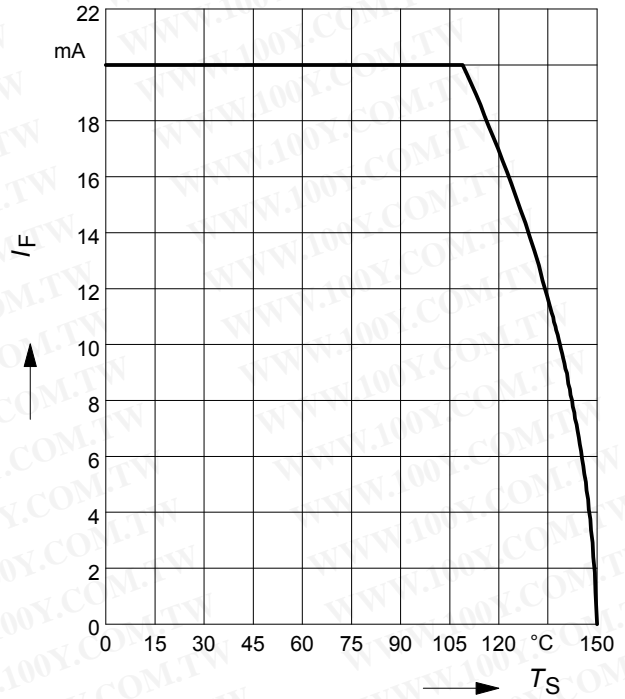
**Forward current  $I_F = f(T_S)$**

BAT62-02L, -07L4



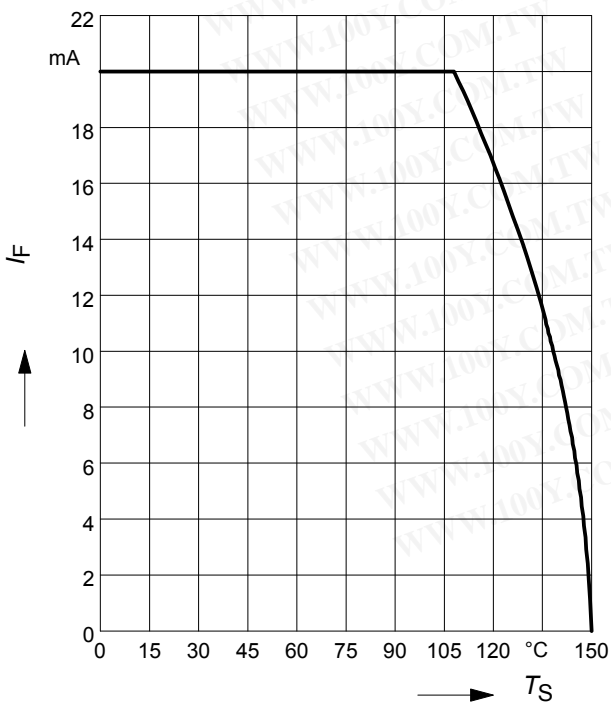
**Forward current  $I_F = f(T_S)$**

BAT62-02W



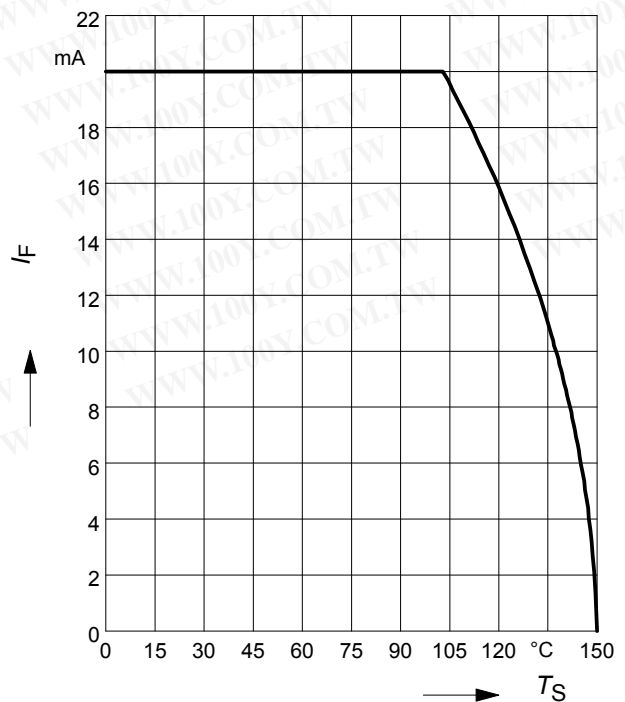
**Forward current  $I_F = f(T_S)$**

BAT62-03W



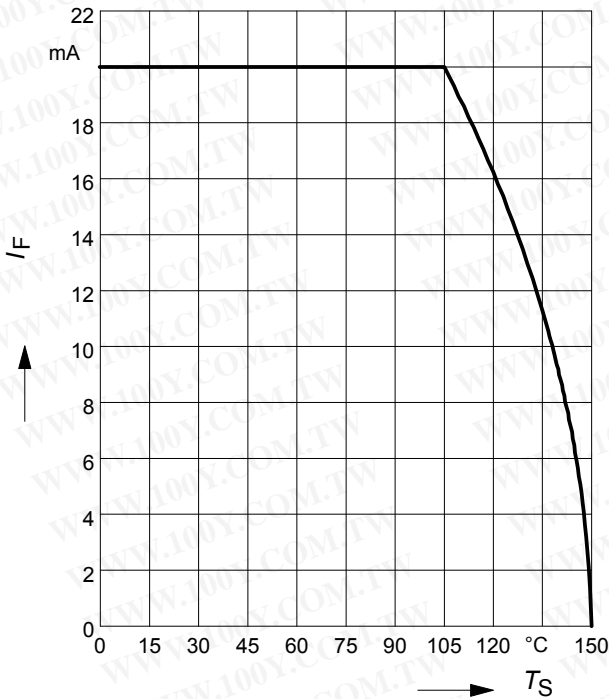
**Forward current  $I_F = f(T_S)$**

BAT62-07W



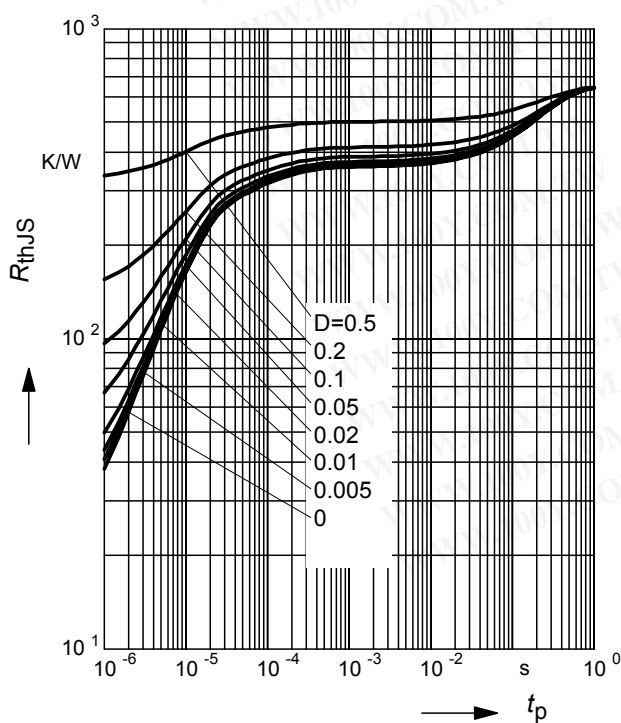
**Forward current  $I_F = f(T_S)$**

BAT62-08S



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

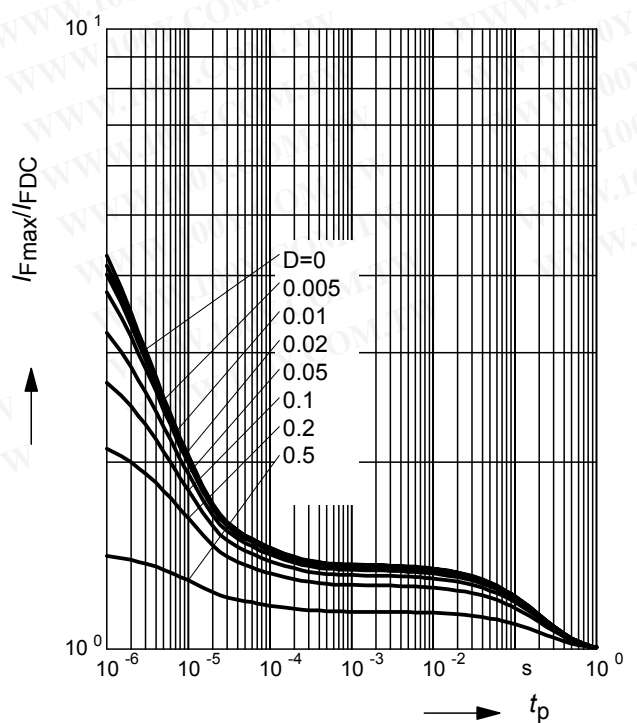
BAT62



**Permissible Pulse Load**

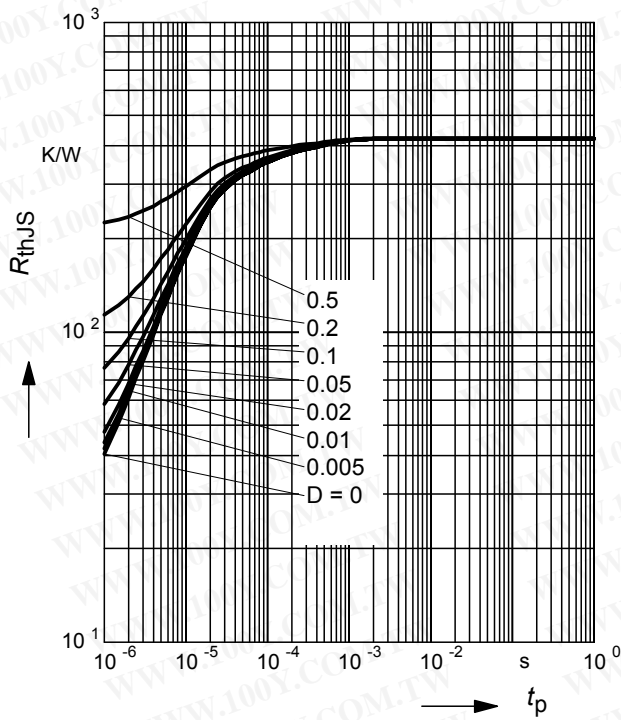
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT62



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

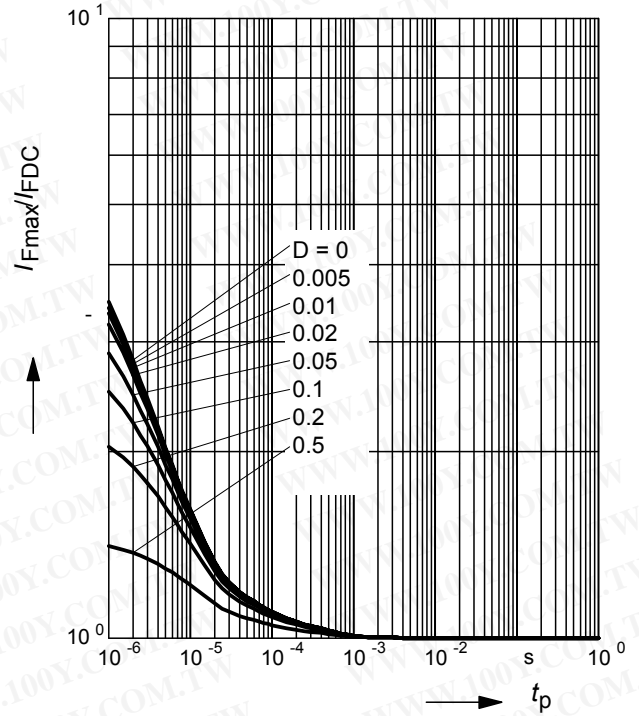
BAT62-02L, -07L4



**Permissible Pulse Load**

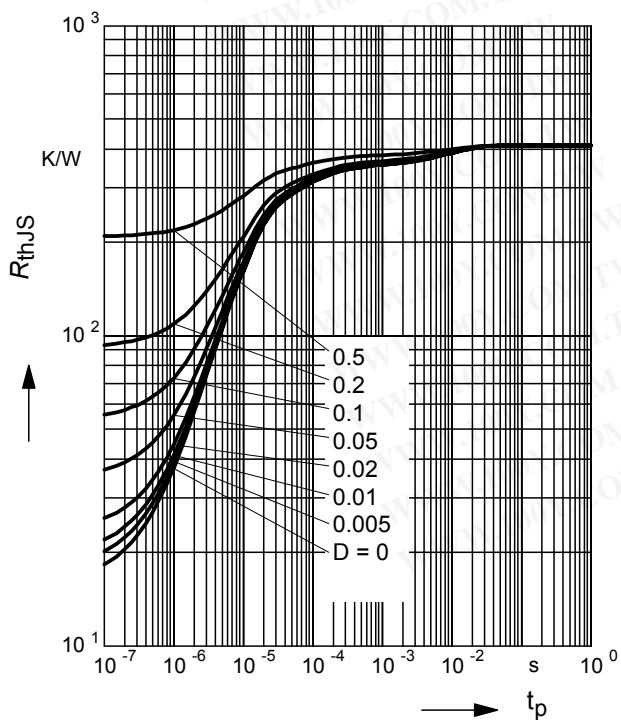
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT62-02L, -07L4



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

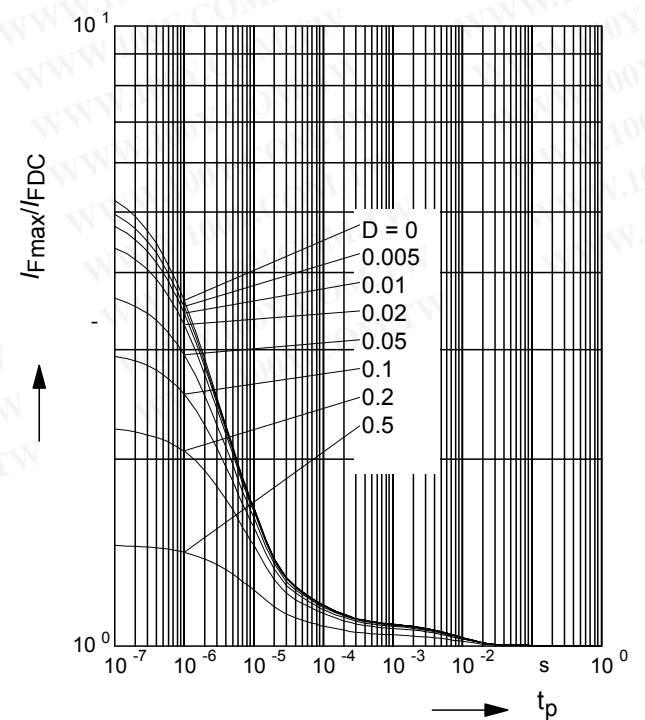
BAT62-02W



**Permissible Pulse Load**

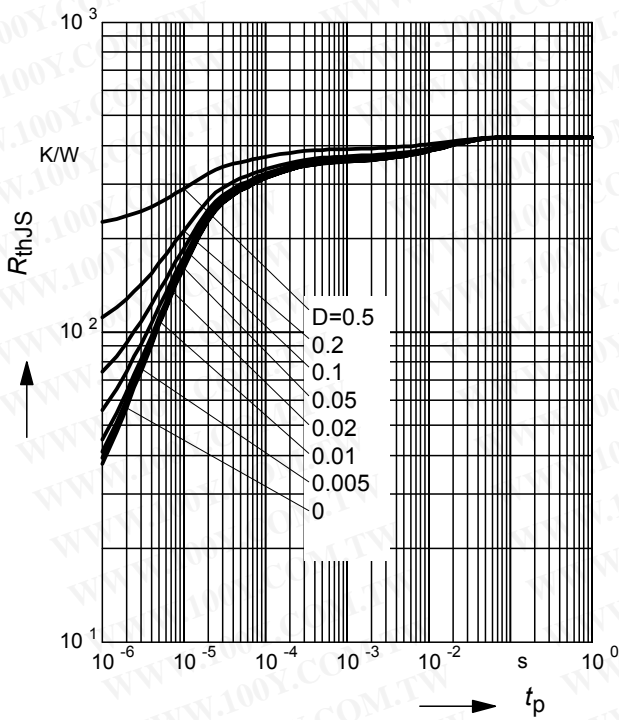
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT62-02W



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

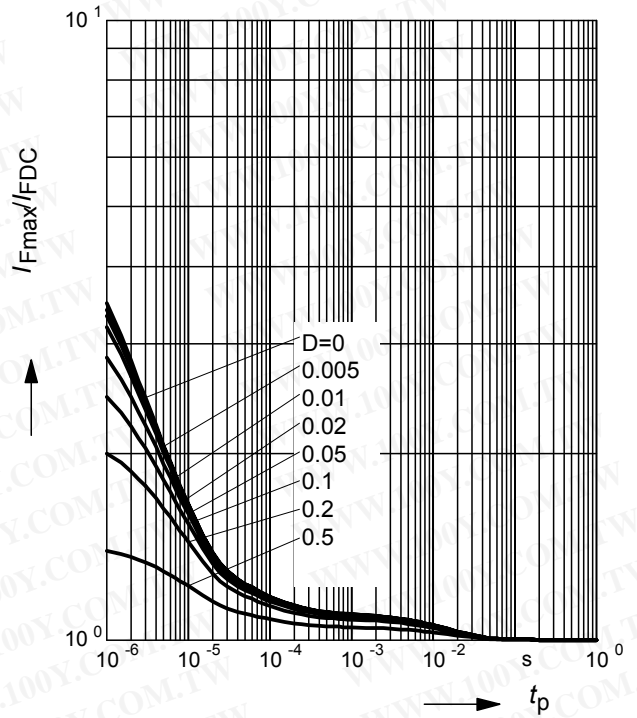
BAT62-03W



**Permissible Pulse Load**

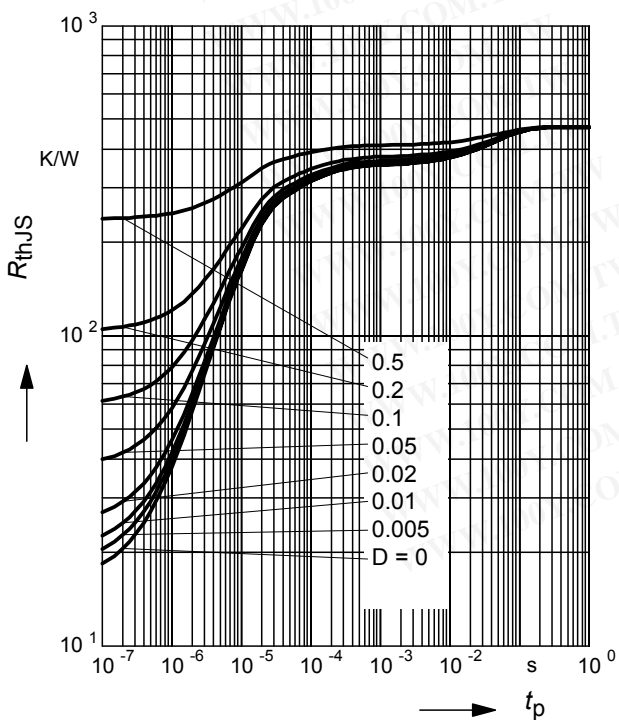
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT62-03W



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

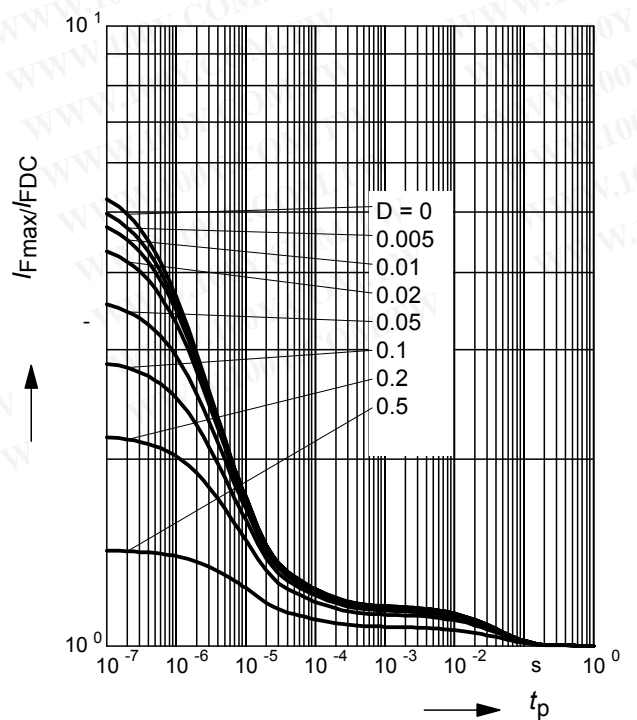
BAT62-07W



**Permissible Pulse Load**

$I_{Fmax} / I_{FDC} = f(t_p)$

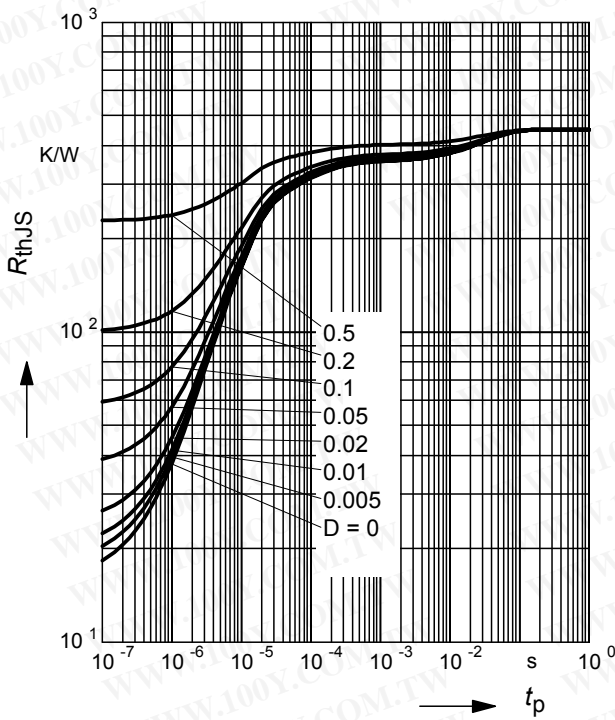
BAT62-07W





**Permissible Puls Load  $R_{thJS} = f(t_p)$**

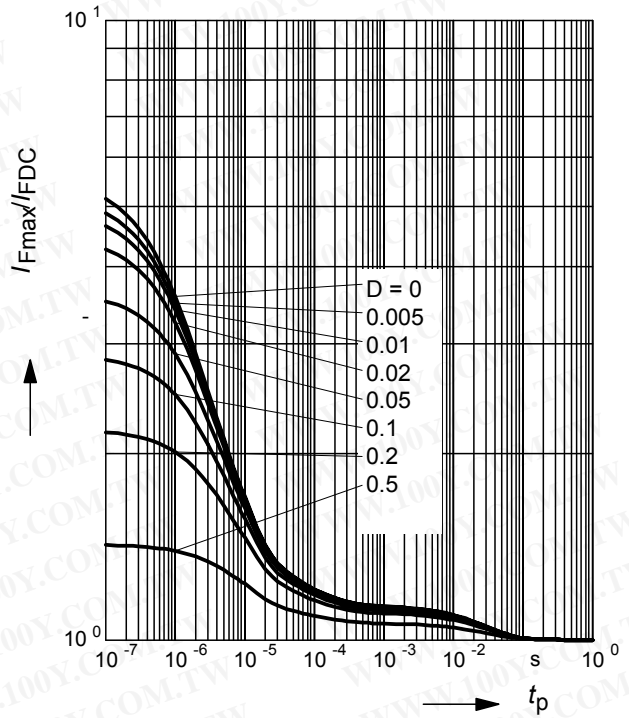
BAT62-08S



**Permissible Pulse Load**

$I_{Fmax} / I_{FDC} = f(t_p)$

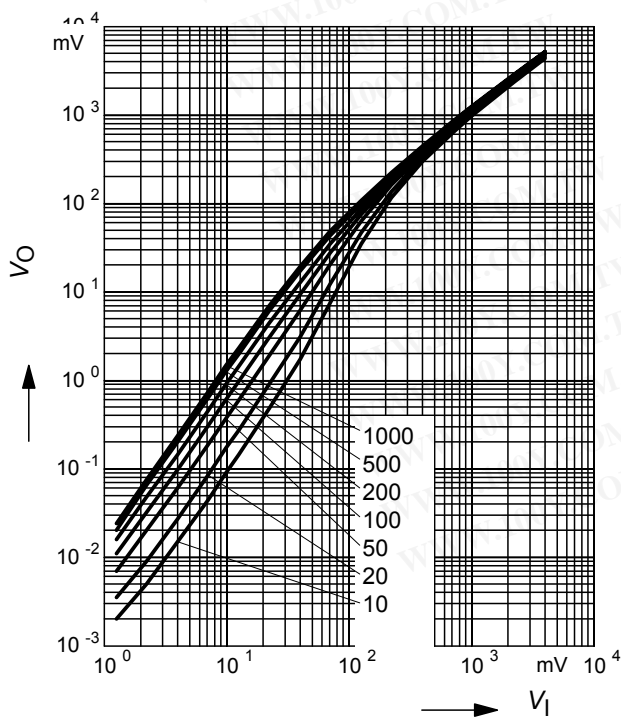
BAT62-08S



**Rectifier voltage  $V_{out} = f(V_{in})$**

$f = 900\text{MHz}$

$R_L = \text{Parameter in } k\Omega$



**Testcircuit**

