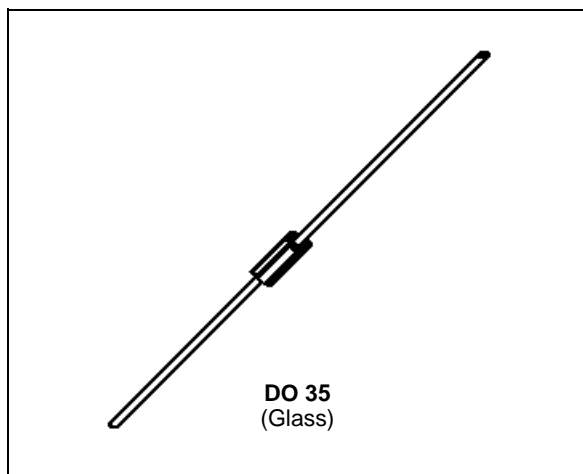


SMALL SIGNAL SCHOTTKY DIODES

DESCRIPTION

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

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



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		BAT47	BAT48	Unit
V _{RRM}	Repetitive Peak Reverse Voltage		20	40	V
I _F	Forward Continuous Current*	T _a = 25 °C	350		mA
I _{FRM}	Repetitive Peak Fordware Current*	t _p ≤ 1s δ ≤ 0.5	1		A
I _{FSM}	Surge non Repetitive Forward Current*	t _p = 10ms	7.5		A
		t _p = 1s	1.5		
P _{tot}	Power Dissipation*	T _a = 25 °C	330		mW
T _{stg} T _j	Storage and Junction Temperature Range		- 65 to + 150 - 65 to + 125		°C °C
T _L	Maximum Temperature for Soldering during 10s at 4mm from Case		230		°C

THERMAL RESISTANCE

Symbol	Test Conditions	Value	Unit
$R_{th(j-l)}$	Junction-ambient*	300	°C/W

* On infinite heatsink with 4mm lead length

ELECTRICAL CHARACTERISTICS
STATIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
V_{BR}	$I_R = 10\mu A$	BAT47		20			V
	$I_R = 25\mu A$	BAT48		40			
V_F^*	$T_j = 25^\circ C$ $I_F = 0.1mA$	All Types				0.25	V
	$T_j = 25^\circ C$ $I_F = 1mA$					0.3	
	$T_j = 25^\circ C$ $I_F = 10mA$					0.4	
	$T_j = 25^\circ C$ $I_F = 30mA$	BAT47				0.5	
	$T_j = 25^\circ C$ $I_F = 150mA$					0.8	
	$T_j = 25^\circ C$ $I_F = 300mA$					1	
	$T_j = 25^\circ C$ $I_F = 50mA$	BAT48				0.5	
	$T_j = 25^\circ C$ $I_F = 200mA$					0.75	
	$T_j = 25^\circ C$ $I_F = 500mA$					0.9	
I_R^*	$T_j = 25^\circ C$	$V_R = 1.5V$	All Types			1	μA
	$T_j = 60^\circ C$					10	
	$T_j = 25^\circ C$	$V_R = 10V$	BAT47			4	
	$T_j = 60^\circ C$					20	
	$T_j = 25^\circ C$	$V_R = 20V$				10	
	$T_j = 60^\circ C$					30	
	$T_j = 25^\circ C$	$V_R = 10V$	BAT48			2	
	$T_j = 60^\circ C$					15	
	$T_j = 25^\circ C$	$V_R = 20V$				5	
	$T_j = 60^\circ C$					25	
	$T_j = 25^\circ C$	$V_R = 40V$				25	
	$T_j = 60^\circ C$					50	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
C	$T_j = 25^\circ C$ $V_R = 0V$	$f = 1MHz$			20		pF
	$T_j = 25^\circ C$ $V_R = 1V$				12		
t_{rr}	$T_j = 25^\circ C$ $I_F = 10mA$	$V_R = 1V$	$i_{rr} = 1mA$ $R_L = 100\Omega$		10		ns

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

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

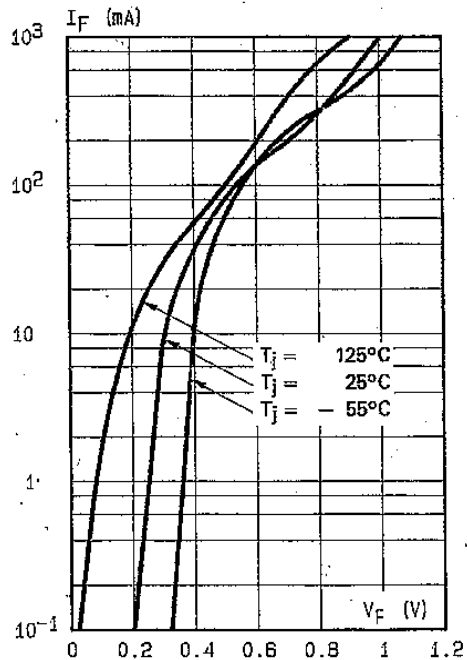


Figure 2. Forward current versus forward voltage (typical values).

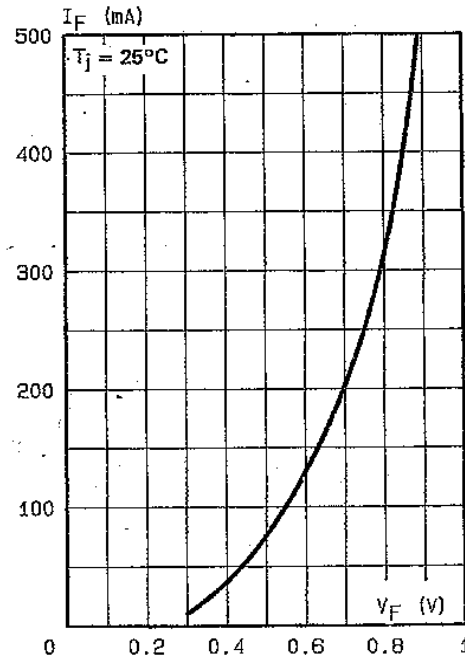


Figure 3. Reverse current versus junction temperature.

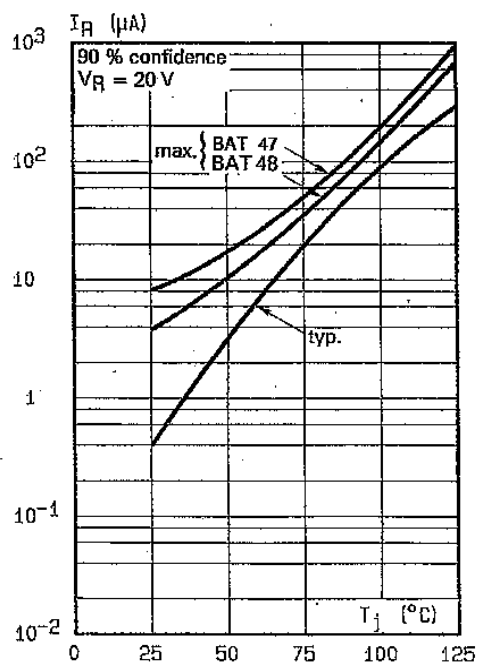


Figure 4. Reverse current versus continuous reverse voltage (typical values).

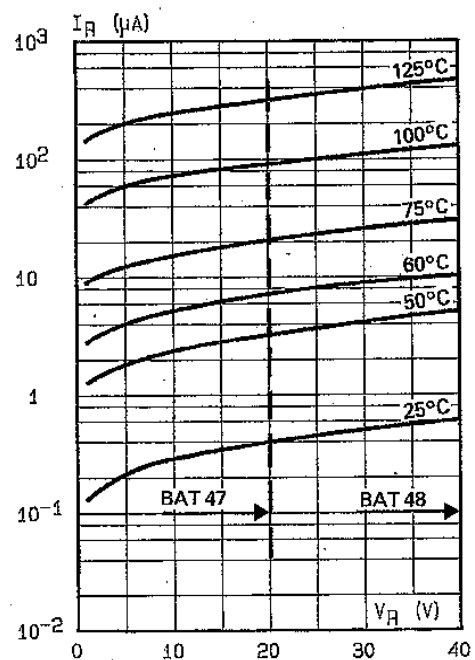
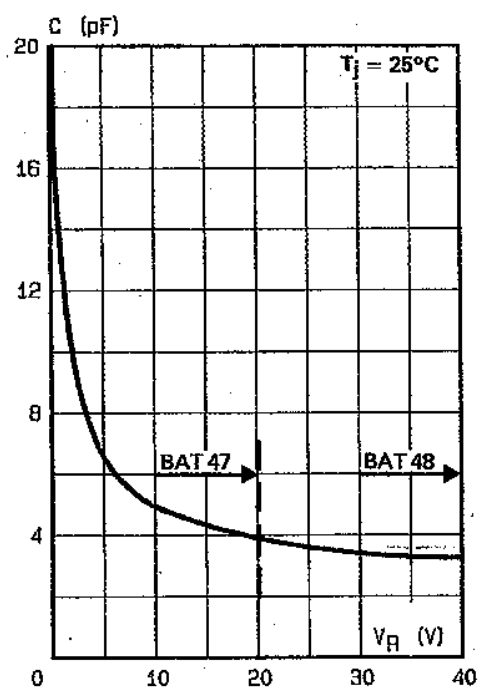
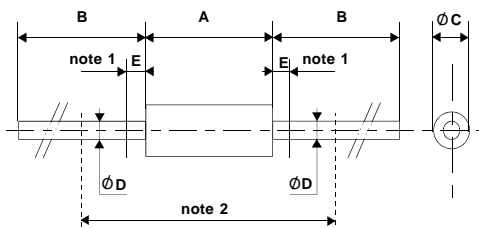


Figure 5. Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA

DO 35 Glass



REF.	DIMENSIONS				NOTES
	Millimeters		Inches		
	Min.	Max.	Min.	Max.	
A	3.050	4.500	0.120	0.117	1 - The lead diameter Ø D is not controlled over zone E 2 - The minimum axial length within which the device may be placed with its leads bent at right angles is 0.59"(15 mm)
B	12.7		0.500		
Ø C	1.530	2.000	0.060	0.079	
Ø D	0.458	0.558	0.018	0.022	
E		1.27		0.050	

Cooling method: by convection and conduction.

Marking: clear, ring at cathode end.

Weight: 0.015g

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