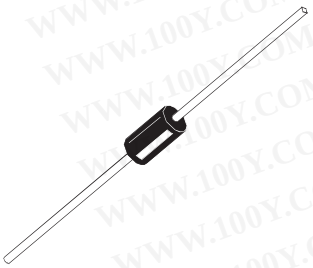
BAT42
BAT43

SMALL SIGNAL SCHOTTKY DIODES



DO-35

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 dis-

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		30	V
I_F	Forward Continuous Current	T_a = 25°C	200	mA
I_{FRM}	Repetitive Peak Fordware Current	$t_p \leq 1s$ $\delta \leq 0.5$	500	mA
I_{FSM}	Surge non Repetitive Forward Current*	t_p = 10ms	4	A
P_{tot}	Power Dissipation*	T_l = 65 °C	200	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
$R_{th(j-a)}$	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}	Tj = 25°C	I_R = 100µA		30			V
V_F*	T_j = 25°C	I_F = 200mA	All Types			1	V
	T_j = 25°C	I_F = 10mA	BAT 42			0.4	
	T_j = 25°C	I_F = 50mA				0.65	
	T_j = 25°C	I_F = 2mA	BAT 43	0.26		0.33	
	T_j = 25°C	I_F = 15mA				0.45	
I_R*	T_j = 25°C		V_R = 25V			0.5	µA
	T_j = 100°ÉC					100	

DYNAMIC CHARACTERISTICS

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
C	T_j = 25°C V_R = 1V f = 1MHz		7		pF
trr	Tj = 25°C I_F = 10mA I_R = 10mA i_{rr} = 1mA R_L = 100Ω			5	ns
h	T_j = 25°C R_L = 15KΩ C_L = 300pF f = 45MHz V_i = 2V	80			%

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

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

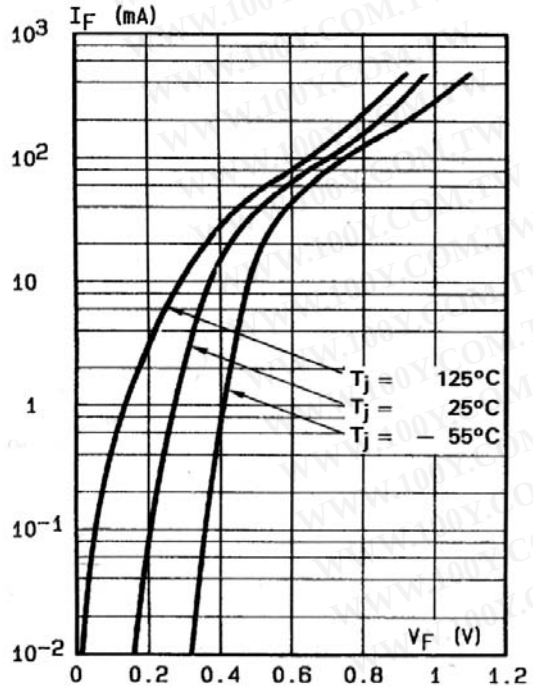


Fig. 2: Forward current versus forward voltage (typical values).

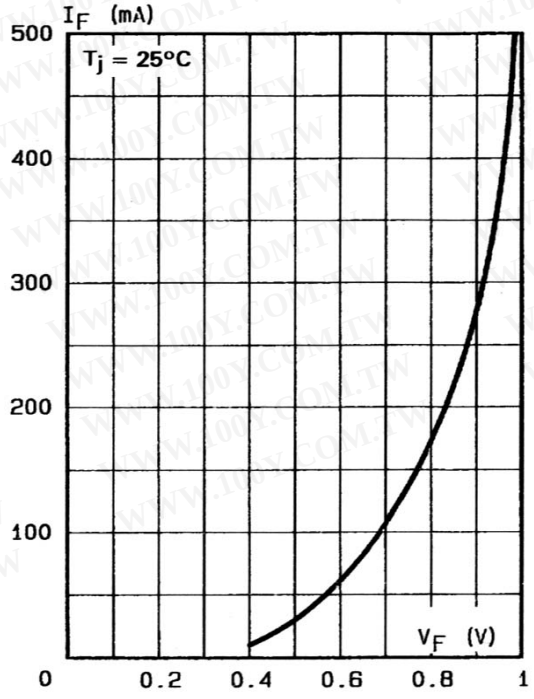


Fig. 3: Reverse current versus junction temperature (typical values).

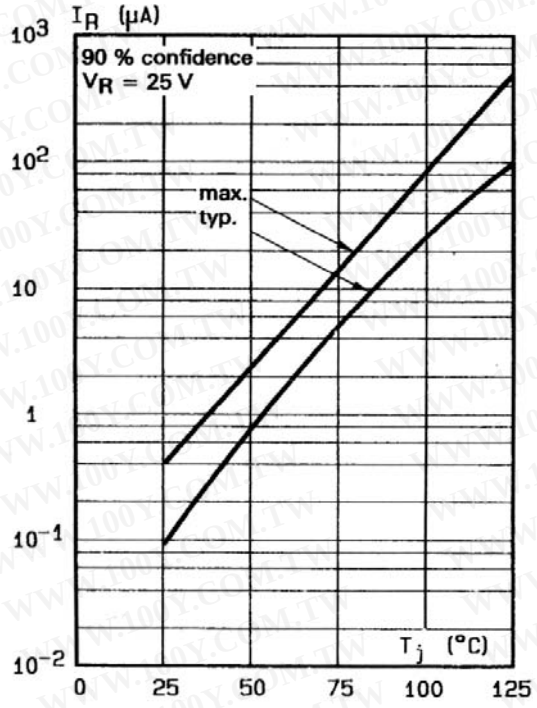


Fig. 4: Reverse current versus continuous reverse voltage.

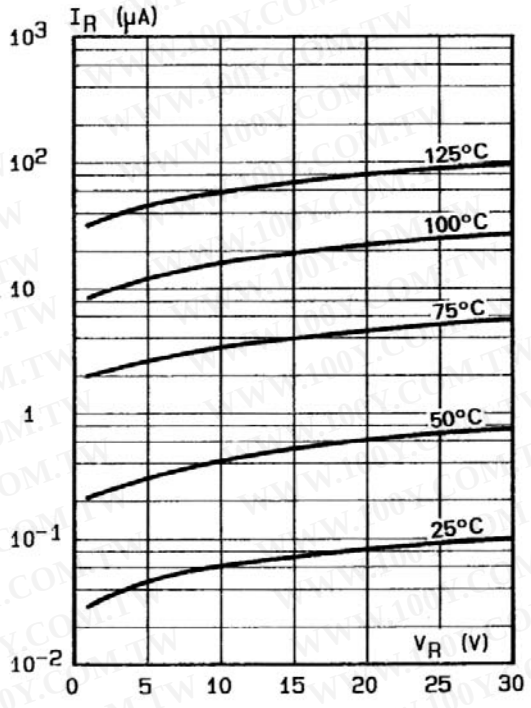
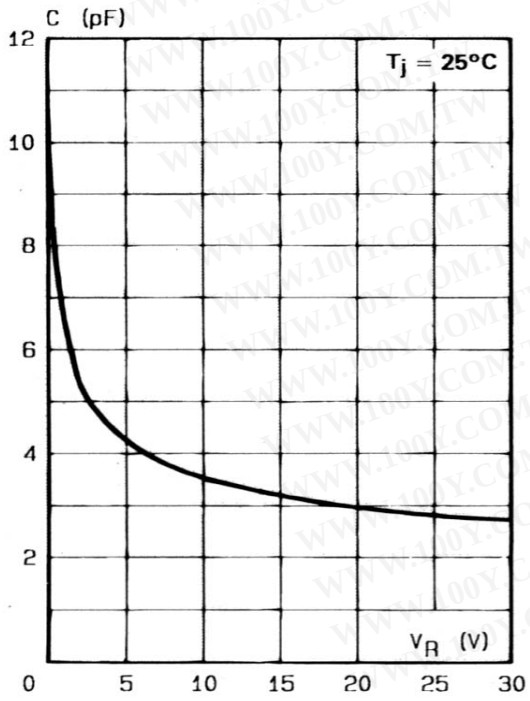
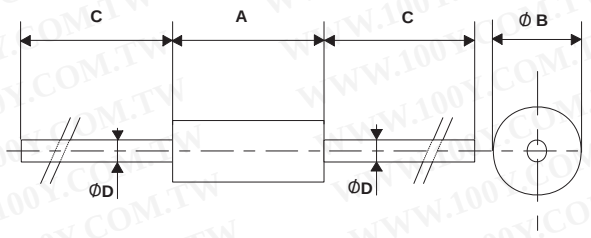


Fig. 5: Capacitance C versus reverse applied voltage V_R (typical values).



PACKAGE MECHANICAL DATA

DO-35



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.05	4.50	0.120	0.177
B	1.53	2.00	0.060	0.079
C	28.00		1.102	
D	0.458	0.558	0.018	0.022

Cooling method: by convection and conduction
Marking: clear, ring at cathode end.
Weight: 0.15g