

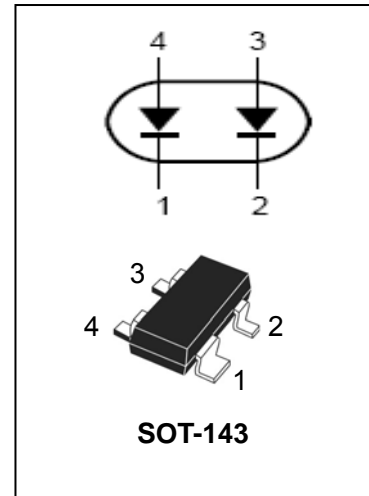
## Schottky barrier double diode

**BAT74**
**FEATURES**

- Low forward voltage.
- Guard ring protected.
- Small plastic SMD package.


**APPLICATIONS**

- Ultra high-speed switching.
- Voltage clamping.
- Protection circuits.
- Blocking diodes.


**ORDERING INFORMATION**

Type No.	Marking	Package Code
BAT74	L41	SOT-143

**MAXIMUM RATING @ Ta=25°C unless otherwise specified**

Characteristic	Symbol	Limits	Unit
<b>Per diode</b>			
Continuous reverse voltage	$V_R$	30	V
Continuous forward current	$I_F$	200	mA
Repetitive peak forward current ( $t_p \leq 1s$ ; $\delta \leq 0.5$ )	$I_{FRM}$	300	mA
Non-repetitive peak forward current ( $t_p \leq 10ms$ )	$I_{FSM}$	600	mA
Total power dissipation ( $T_{amb} \leq 25^\circ C$ )	$P_{tot}$	230	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	500	$^\circ C/W$
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{STG}$	-65 to +150	$^\circ C$
<b>Double diode operation</b>			
Continuous reverse voltage	$V_R$	30	V
Continuous reverse voltage series connection	$V_R$	60	V
Continuous forward current	$I_F$ (Note1)	110	mA
Repetitive peak forward current ( $t_p \leq 1s$ ; $\delta \leq 0.5$ )	$I_{FRM}$	200	mA

Note:1. If both diodes are in forward operation at the same moment, total device current is max. 110 mA. If one diode is in reverse operation and the other is in forward operation at the same moment, total device current is max. 200 mA.

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**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Characteristic	Symbol	Min	MAX	UNIT	Test Condition
<b>Per diode</b>					
Forward Voltage	$V_F$	-	0.24 0.32 0.40 0.50 0.80	V	$I_F=0.1\text{mA}$ $I_F=1\text{mA}(\text{Note1})$ $I_F=10\text{mA}$ $I_F=30\text{mA}$ $I_F=100\text{mA}$
Reverse Leakage Current	$I_R$	-	2	$\mu\text{A}$	$V_R=25\text{V}$
Diodes Capacitance	$C_d$	-	10	pF	$V_R=1\text{V}, f=1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	-	5	ns	when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$ ; $R_L = 100\text{ W}$ ; measured at $I_R = 1\text{ mA}$ ;

Note:1. Temperature coefficient of forward voltage -0.6%/K.

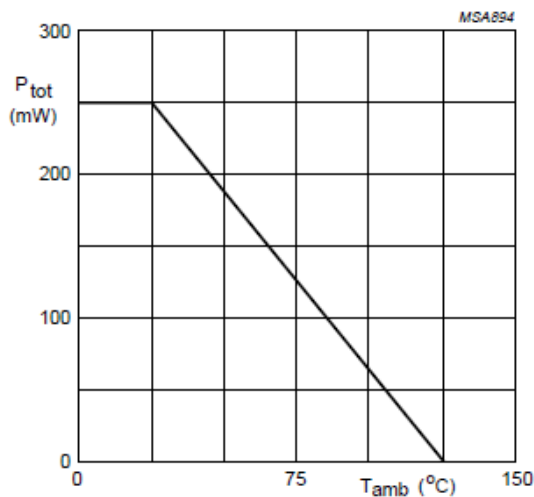
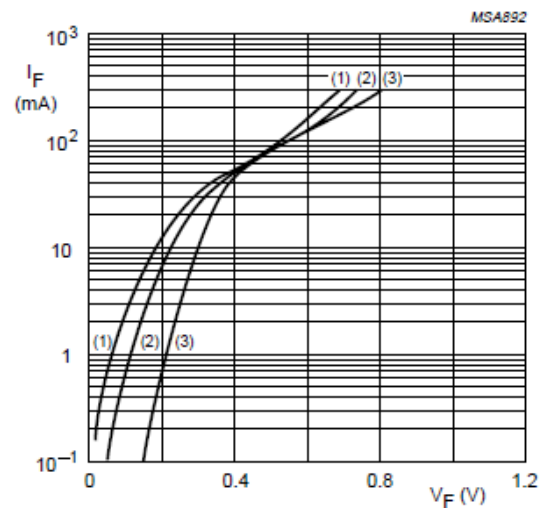
**TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**


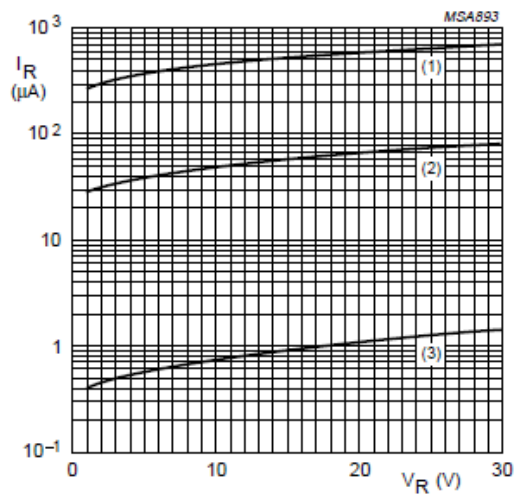
Fig.1 Power derating curve.



- (1)  $T_{amb} = 125\text{ }^\circ\text{C}$ .  
 (2)  $T_{amb} = 85\text{ }^\circ\text{C}$ .  
 (3)  $T_{amb} = 25\text{ }^\circ\text{C}$ .

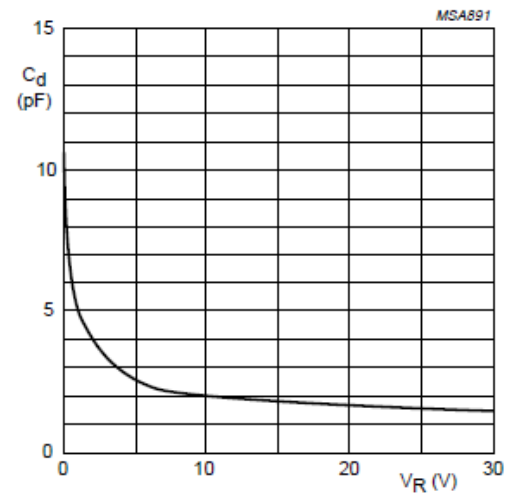
Fig.2 Forward current as a function of forward voltage; typical values.

## Schottky barrier double diode

**BAT74**


- (1)  $T_{\text{amb}} = 125\text{ }^{\circ}\text{C}$ .  
 (2)  $T_{\text{amb}} = 85\text{ }^{\circ}\text{C}$ .  
 (3)  $T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ .

Fig.3 Reverse current as a function of reverse voltage; typical values.



$f = 1\text{ MHz}$ ;  $T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ .

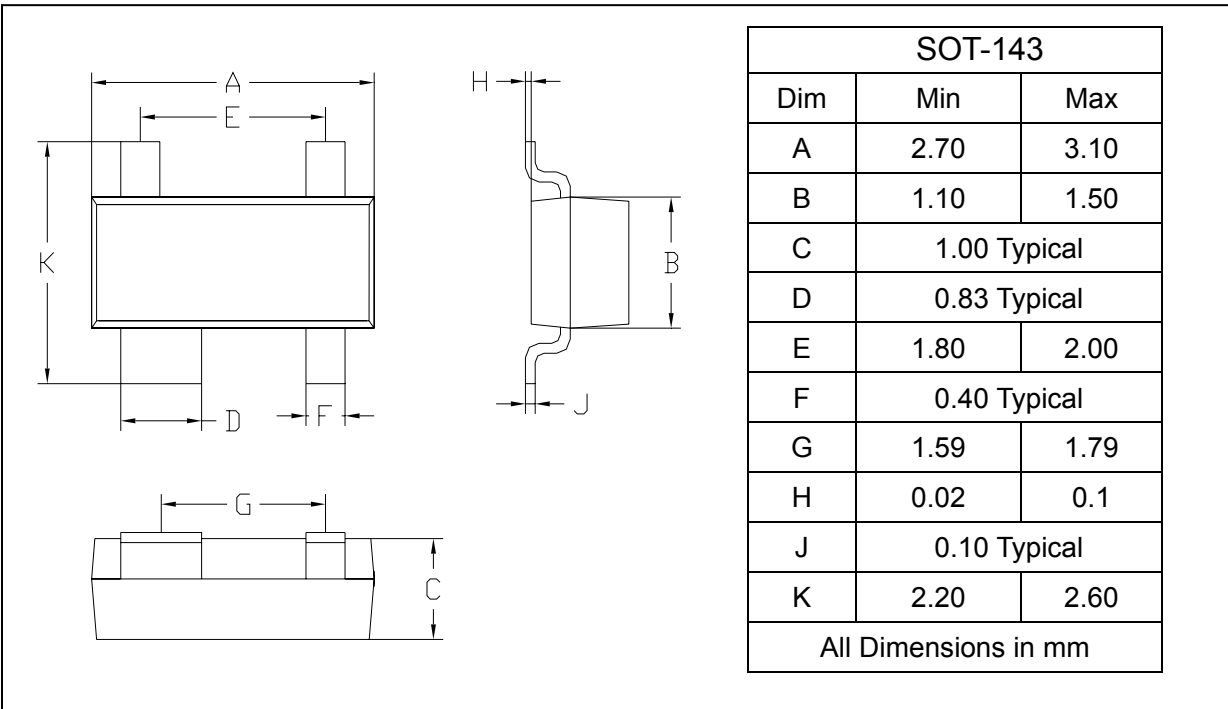
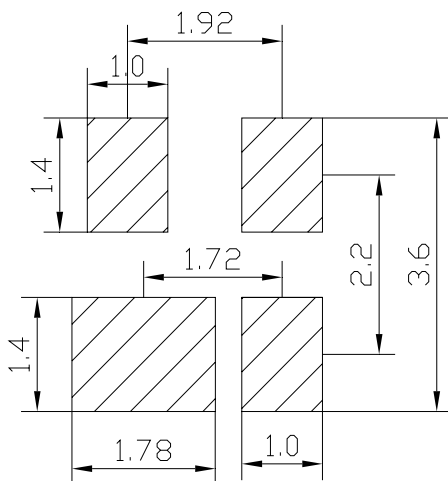
Fig.4 Diode capacitance as a function of reverse voltage; typical values.

## Schottky barrier double diode

**BAT74**
**PACKAGE OUTLINE**

Plastic surface mounted package

SOT-143


**SOLDERING FOOTPRINT**


Unit : mm

**PACKAGE INFORMATION**

Device	Package	Shipping
BAT74	SOT-143	3000/ Tape&Reel