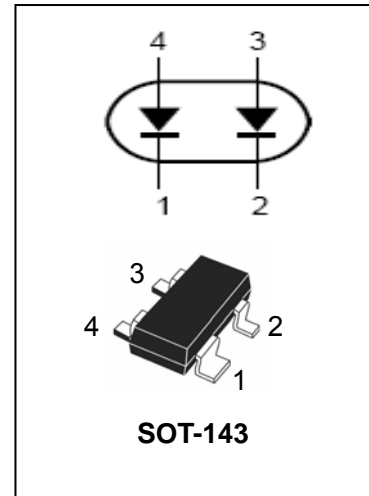


Schottky barrier double diode

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
Per diode			
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	$^\circ C$
Double diode optation			
Contions reverse voltage	V_R	30	V
Contions 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.

Schottky barrier double diode

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Characteristic	Symbol	Min	MAX	UNIT	Test Condition
Per diode					
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	μA	$V_R=25\text{V}$
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

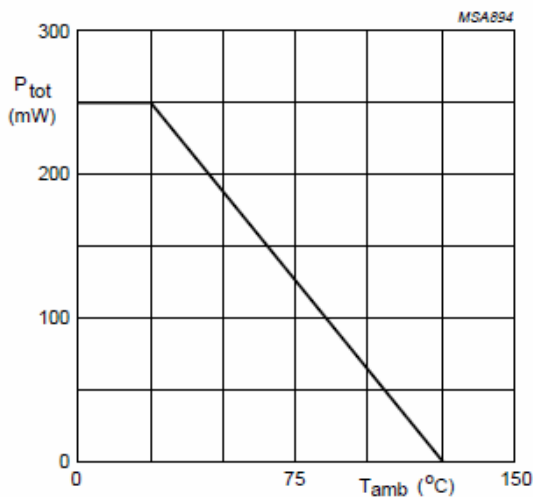
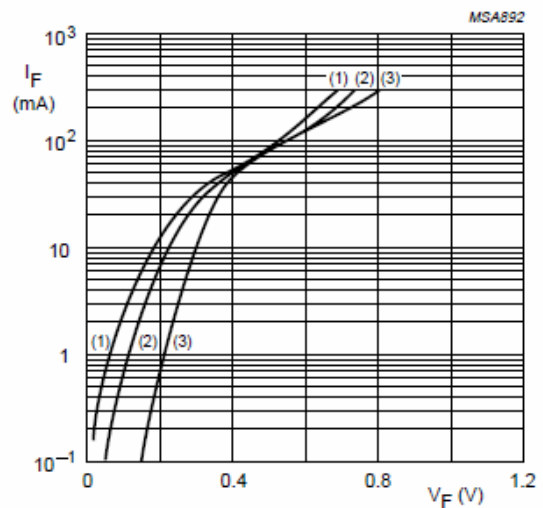


Fig.1 Power derating curve.

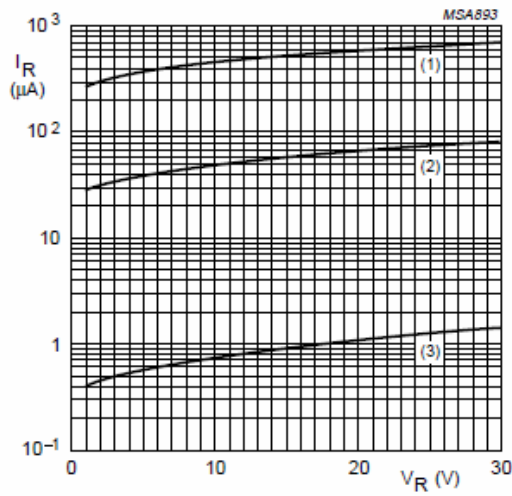


- (1) $T_{amb} = 125\text{ }^\circ\text{C}$.
- (2) $T_{amb} = 85\text{ }^\circ\text{C}$.
- (3) $T_{amb} = 25\text{ }^\circ\text{C}$.

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

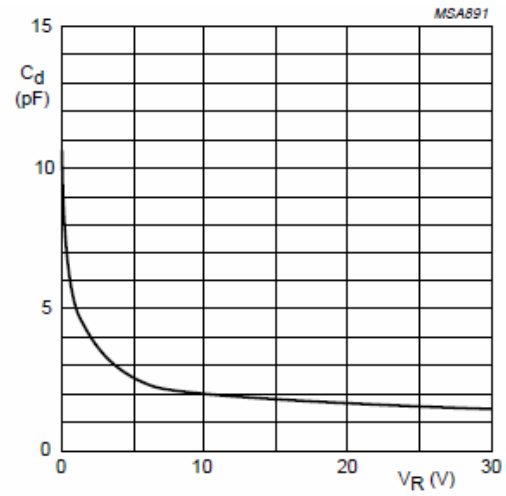
Schottky barrier double diode

BAT74



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

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



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

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

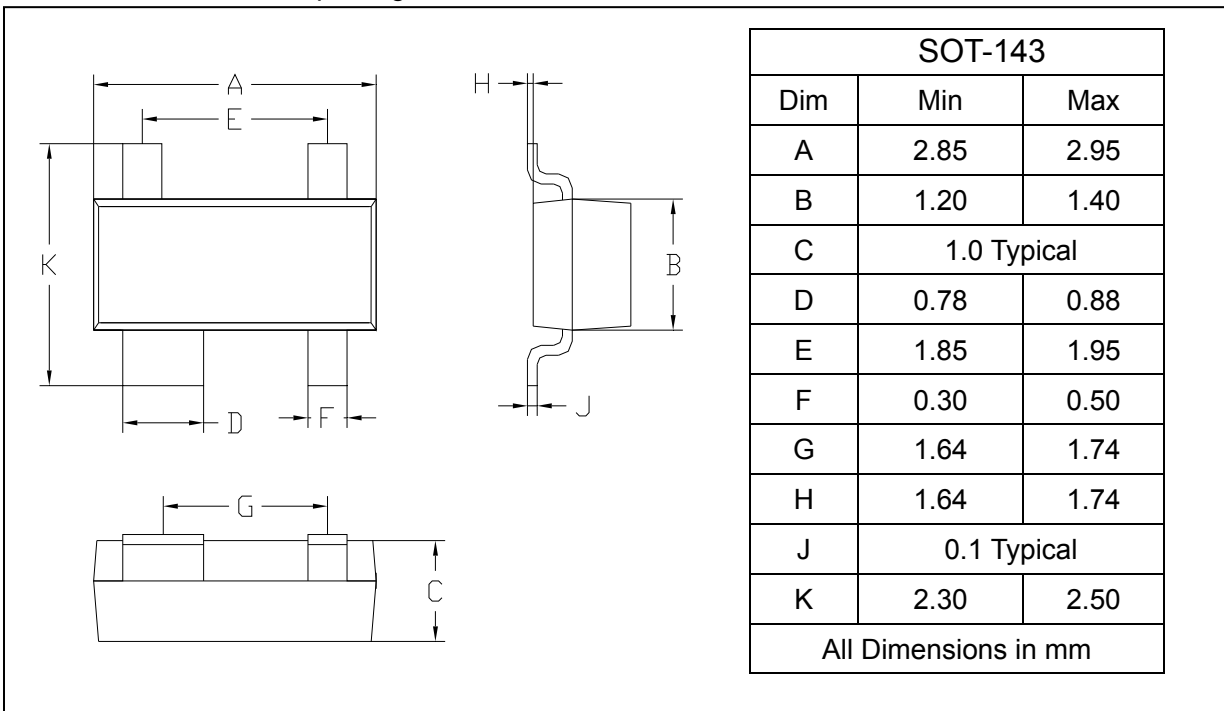
Schottky barrier double diode

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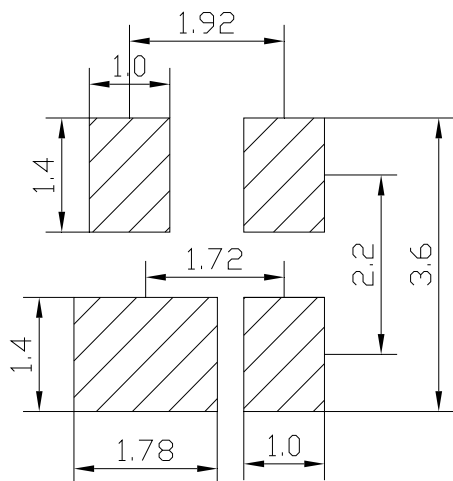
PACKAGE OUTLINE

Plastic surface mounted package

SOT-143



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

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