

DEVELOPMENT DATA This data sheet contains advance information and specifications which are subject to change without notice.

### SCHOTTKY BARRIER DIODE

Two separate silicon epitaxial Schottky barrier diodes with an integrated p-n junction protection ring in one microminiature SOT-143 envelope, intended for surface mounting (SMD technology).

The device features a low forward voltage drop.

#### QUICK REFERENCE DATA

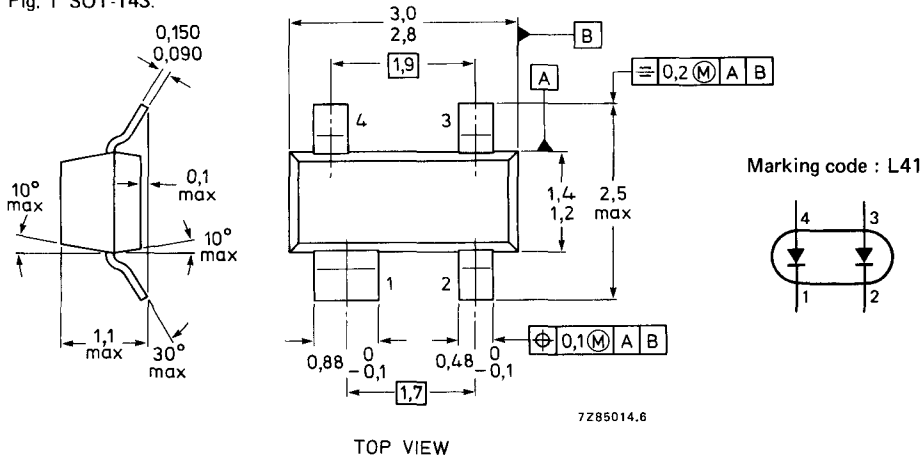
			single diode	double-diode operation
Continuous reverse voltage	$V_R$	max.	30	30 V
Continuous reverse voltage series connection	$V_R$	max.	—	60 V
Forward current	$I_F$	max.	200	110 mA
Repetitive peak forward current	$I_{FRM}$	max.	300	200 mA
Non-repetitive peak forward current	$I_{FSM}$	max.	600	mA
Total power dissipation up to $T_{amb} = 25^\circ C$	$P_{tot}$	max.	230	mW
Reverse recovery time when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$ ; $R_L = 100\ \Omega$ ; measured at $I_R = 1\text{ mA}$	$t_{rr}$	$\leq$	5	ns

blue binder, tab 7

#### MECHANICAL DATA

Dimensions in mm

Fig. 1 SOT-143.



**RATINGS**

Limiting values in accordance with the Absolute Maximum System (IEC 134)

			single diode	double-diode operation
Continuous reverse voltage	$V_R$	max.	30	30 V
Continuous reverse voltage series connection	$V_R$	max.	—	60 V
Forward current (see Fig. 2)	$I_F$	max.	200	110* mA
Repetitive peak forward current	$I_{FRM}$	max.	300	200 mA
Non-repetitive peak forward current $t < 1$ s	$I_{FSM}$	max.	600	mA
Total power dissipation up to $T_{amb} = 25$ °C	$P_{tot}$	max.	230	mW
Storage temperature	$T_{stg}$		-65 to + 150	°C
Junction temperature	$T_j$	max.	125	°C

**THERMAL RESISTANCE**

From junction to ambient mounted on a ceramic substrate of 10 mm x 8 mm x 0,6 mm

$R_{th j-a}$	430	K/W
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**CHARACTERISTICS, per diode**

$T_{amb} = 25$  °C unless otherwise specified

Forward voltage

$I_F = 0,1$  mA

$I_F = 1$  mA\*\*

$I_F = 10$  mA

$I_F = 30$  mA\*\*

$I_F = 100$  mA

$V_F$	$\leq$	240	mV
$V_F$	$\leq$	320	mV
$V_F$	$\leq$	400	mV
$V_F$	$\leq$	500	mV
$V_F$	$=$	500	mV
$V_F$	$<$	1000	mV

Reverse current

$V_R = 25$  V

$I_R$	$\leq$	2	$\mu$ A
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Reverse breakdown voltage

$V_{(BR)R}$	$>$	30	V
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Diode capacitance

$V_R = 1$  V;  $f = 1$  MHz

$C_d$	$\leq$	10	pF
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Reverse recovery time when switched from

$I_F = 10$  mA to  $I_R = 10$  mA;  $R_L = 100$   $\Omega$ , measured at  $I_R = 1$  mA

$t_{rr}$	$\leq$	5	ns
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\* If both diodes are in forward operation at the same moment, total device current max. 110 mA. If one diode is in reverse and the other in forward operation at the same moment, total device current max. 200 mA.

\*\* Temperature coefficient of forward voltage:  $-0,6\%/K$  at  $I_F = 1$  mA.

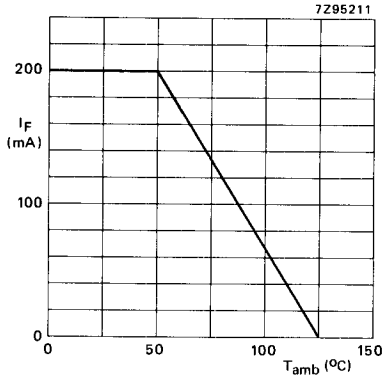


Fig. 2 Derating curve maximum ambient temperature.

DEVELOPMENT SAMPLE DATA

