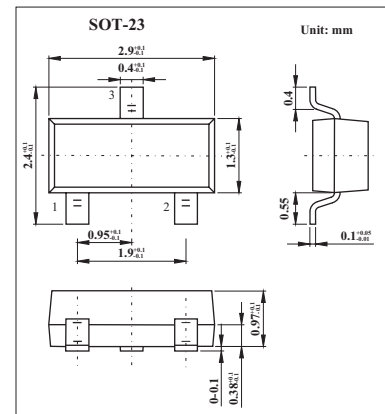


High-speed diode

BAS678

■ Features

- Small plastic SMD package
- High switching speed: max. 6ns
- Continuous reverse voltage: max. 80 V
- Repetitive peak forward current: max. 600 mA.

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Max	Unit
repetitive peak reverse voltage	V_{RRM}			100	V
Continuous reverse voltage	V_R			80	V
Continuous forward current	I_F	Note 1		250	mA
Repetitive peak forward current	I_{FRM}			600	mA
Non-repetitive peak forward current	I_{FSM}	square wave; $T_j = 25^\circ\text{C}$ prior to surge; $t = 1\ \mu\text{s}$ $t = 100\ \mu\text{s}$ $t = 10\ \text{ms}$		9 3 1.7	A
Total power dissipation	P_{tot}	$T_{mab} = 25^\circ\text{C}$; Note 1		250	mW
Storage temperature	T_{stg}		-65	+150	$^\circ\text{C}$
Junction temperature	T_j			150	$^\circ\text{C}$

Note

1. Device mounted on an FR4 printed-circuit board.

High-speed diode

BAS678

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Max	Unit
Forward voltage	V_F	$I_F = 200 \text{ mA}; \text{d.c.}; \text{ Note 1}$		1.0	V
Reverse current	I_R	$V_R = 10 \text{ V};$		15	nA
		$V_R = 75 \text{ V};$		100	nA
		$V_R = 75 \text{ V}; T_j = 150^\circ\text{C}$		50	μA
Diode capacitance	C_d	$f = 1 \text{ MHz}; V_R = 0;$		2	pF
Reverse recovery time	t_{rr}	when switched from $I_F = 400 \text{ mA}$ to $I_R = 400 \text{ mA};$ $R_L = 100 \Omega$; measured at $I_R = 40 \text{ mA};$		6	ns
Forward recovery voltage	V_{fr}	when switched from $I_F = 10 \text{ mA}; t_r = 20 \text{ ns};$		2	V
thermal resistance from junction to tie-point	$R_{th\text{-}j\text{-}tp}$			330	K/W
thermal resistance from junction to ambient	$R_{th\text{-}j\text{-}a}$			500	K/W

Note

1. $T_{amb} = 25^\circ\text{C}$; device has reached the thermal equilibrium when mounted on an FR4 printed-circuit board.

■ Marking

Marking	L52
---------	-----