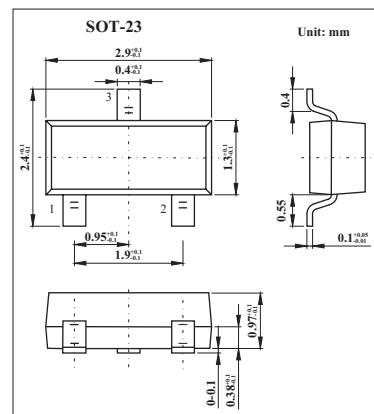


High-speed diode

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	$I_F = 200\text{ mA}$; d.c. ; 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	$R_{th\ j-tp}$			330	K/W
thermal resistance from junction to ambient	$R_{th\ j-a}$			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
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