

# 1SS420

## High-Speed Switching Applications

- Low reverse current:  $I_R = 5 \mu A$  (max)

## Absolute Maximum Ratings (Ta = 25°C)

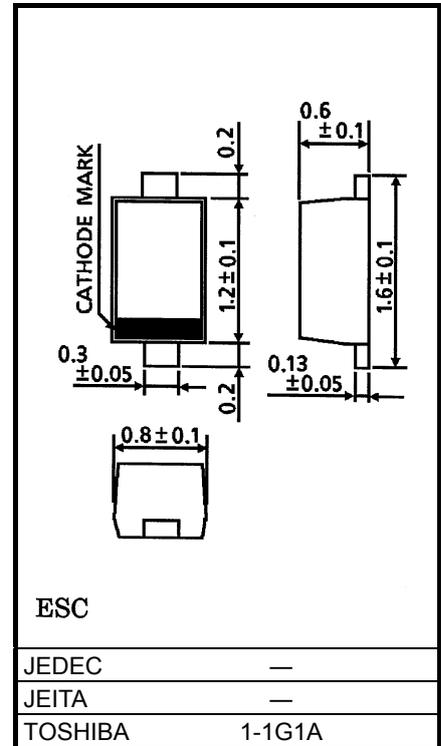
Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	35	V
Reverse voltage	$V_R$	30	V
Maximum (peak) forward current	$I_{FM}$	300	mA
Average forward current	$I_O$	200	mA
Surge current (10 ms)	$I_{FSM}$	1	A
Power dissipation	P *	150	mW
Junction temperature	$T_j$	125	°C
Storage temperature range	$T_{stg}$	-55 to 125	°C
Operating temperature range	$T_{opr}$	-40 to 100	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

- \* Mounted on a glass-epoxy circuit board of 20 × 20 mm, pad dimensions of 4 × 4 mm.

Unit: mm



ESC

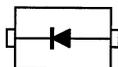
JEDEC	—
JEITA	—
TOSHIBA	1-1G1A

Weight: 0.0014 g (typ.)

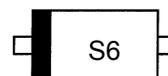
## Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$ (1)	—	$I_F = 1 \text{ mA}$	—	0.29	—	V
	$V_F$ (2)	—	$I_F = 10 \text{ mA}$	—	0.36	—	
	$V_F$ (3)	—	$I_F = 200 \text{ mA}$	—	0.52	0.6	
Reverse current	$I_R$	—	$V_R = 30 \text{ V}$	—	—	5	$\mu A$
Total capacitance	$C_T$	—	$V_R = 0, f = 1 \text{ MHz}$	—	20	—	pF

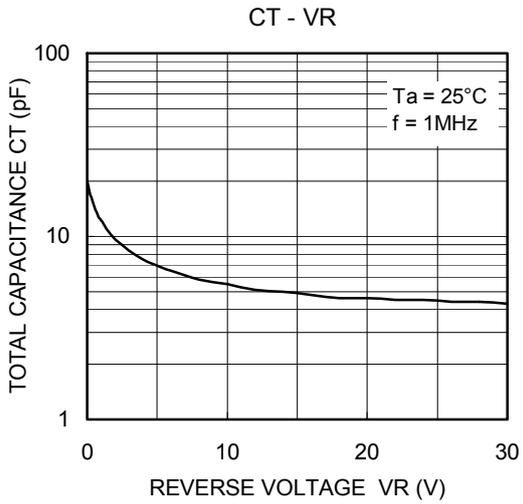
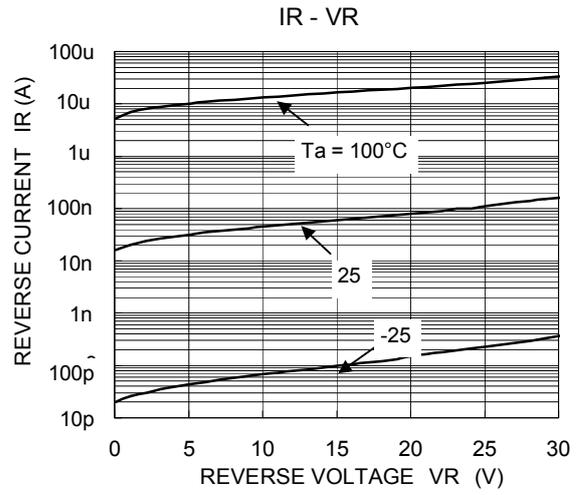
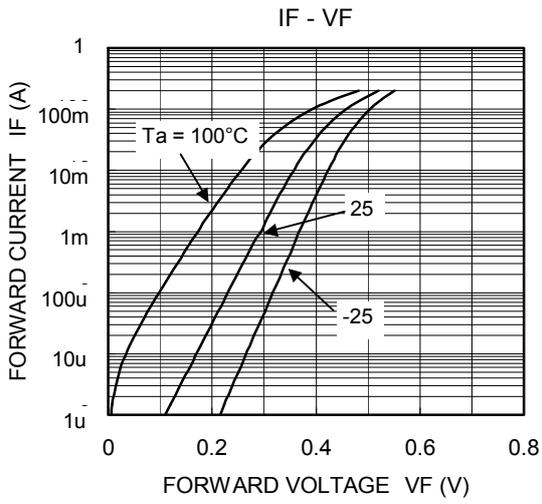
## Equivalent Circuit (Top View)



## Marking



Start of commercial production  
2004-03



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