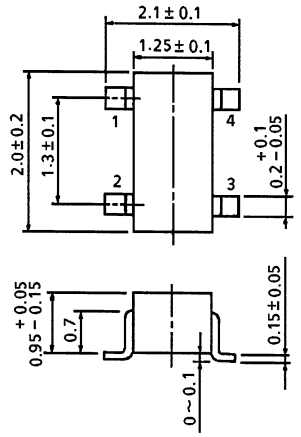
TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

1SS402

High Speed Switching Applications

- Two independent diodes are mounted on four-pin ultra-small packages that are suitable for higher mounting densities.
- Low forward voltage : $V_{F\ (3)}$ = 0.50V (typ.)
- Low reverse current : I_R= 0.5μA (max)
- Small total capacitance : C_T = 3.9pF (typ.)

Unit in mm



1. ANODE1
2. ANODE2
3. CATHODE2
4. CATHODE1

USQ

JEDEC	—
JEITA	—
TOSHIBA	1-2U1A

Weight: 0.006 g(typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	V_{RM}	25	V
Reverse voltage	V_R	20	V
Maximum (peak) forward current	I_{FM}	100 *	mA
Average forward current	I_O	50 *	mA
Surge Current (10ms)	I_{FSM}	1 *	A
Power dissipation	P	100 *	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

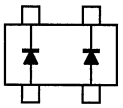
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

*: Unit rating. Total rating = Unit rating × 1.5

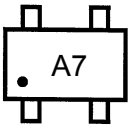
Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F\ (1)}$	—	I_F = 1mA	—	0.33	—	V
	$V_{F\ (2)}$	—	I_F = 5mA	—	0.38	—	
	$V_{F\ (3)}$	—	I_F = 50mA	—	0.50	0.55	
Reverse current	$I_{R\ (1)}$	—	V_R = 20V	—	—	0.5	μA
Total capacitance	C_T	—	V_R = 0, f = 1MHz	—	3.9	5.0	pF

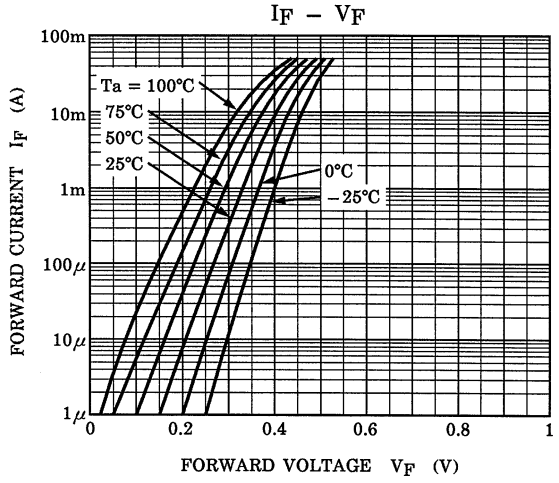
Pin Assignment (Top View)



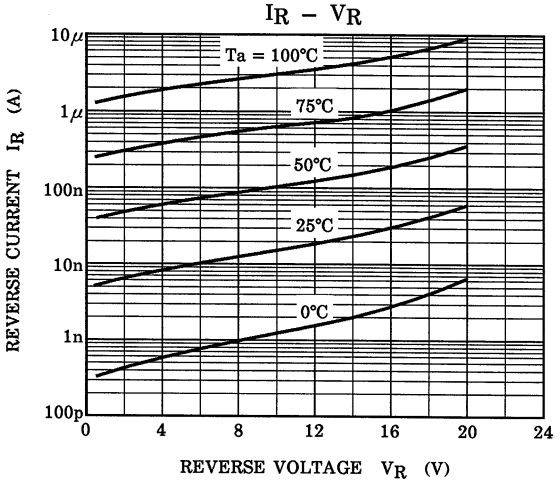
Marking



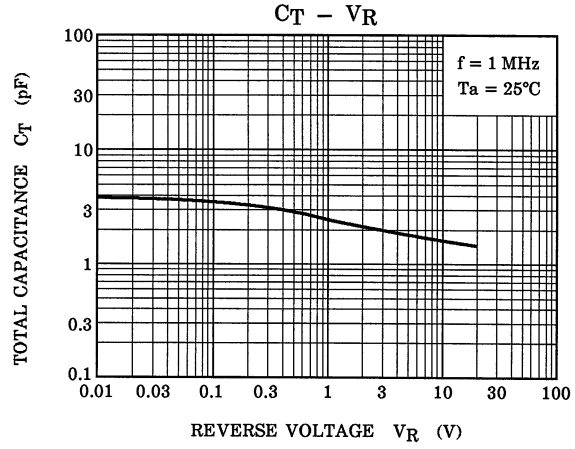
$I_F - V_F$



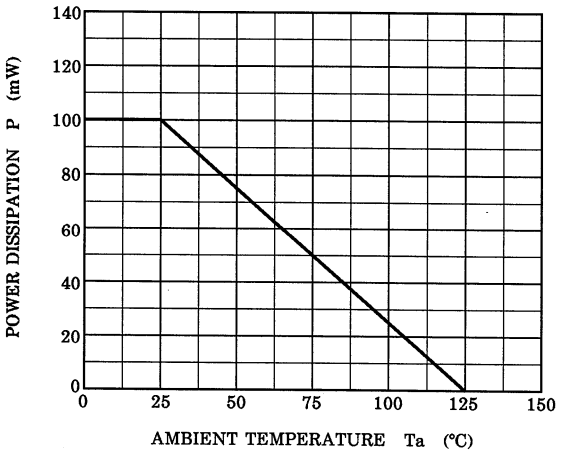
$I_R - V_R$



$C_T - V_R$



P – Ta



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