

Features

- High reliability
- Small surface mounting type
- Low reverse current and low forward voltage
- RoHS compliant with Halogen-free

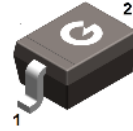
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Application

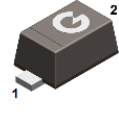
- Low current rectification

Mechanical Data

- Case: SOD-323, SOD-523, DFN1006-2
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



RB521V-40
SOD-323



RB521S-40
SOD-523



RB521L-40
DFN1006-2



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
RB521V-40	SOD-323	3000 pcs / Tape & Reel	S
RB521S-40	SOD-523	3000 pcs / Tape & Reel	S
RB521L-40	DFN1006-2	10000 pcs / Tape & Reel	S

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Maximum Average Forward Output Current	I _O	200	mA
Peak Forward Surge Current (8.3ms single half sine-wave)	I _{FSM}	4	A

Thermal Characteristics

Parameter	Symbol	RB521V-40	RB521S-40	RB521L-40	Unit
Power Dissipation (T _A = 25°C)	P _D	200	150	100	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	500	667	1000	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	323	658	987	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	276	421	631	°C/W
Operating junction Temperature	T _J	-40 ~ +125			°C
Storage Temperature Range	T _{STG}	-40 ~ +150			°C

Note 1: Part mounted on FR-4 board with recommended pad layout

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 10\mu\text{A}$	40	-	-	V
Forward Voltage	V_F	$I_F = 10\text{mA}$	-	-	0.33	V
		$I_F = 100\text{mA}$	-	-	0.45	V
		$I_F = 200\text{mA}$	-	-	0.54	V
Maximum Peak Reverse Current	I_R	$V_R = 10\text{V}$	-	-	1	μA
		$V_R = 40\text{V}$	-	-	10	μA
Diode capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	-	22	50	pF
ESD Break Down Voltage	ESD	$C = 100\text{pF}, R = 1.5\text{k}\Omega$ Forward and reverse:1 time	10	-	-	kV

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

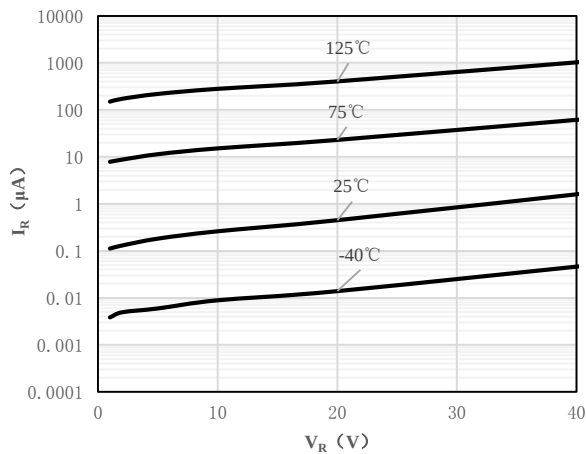


Fig 1 Typical Reverse Characteristic

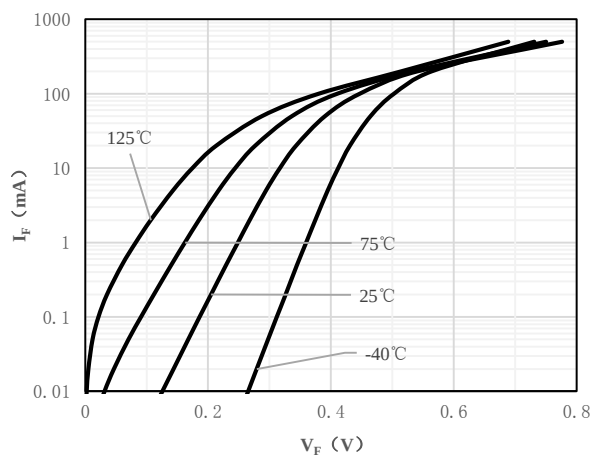


Fig 2 Typical Forward Characteristics

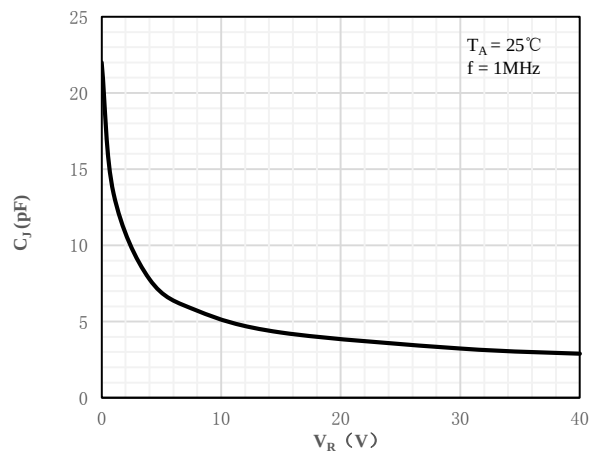


Fig 3 Capacitance vs. Reverse Voltage

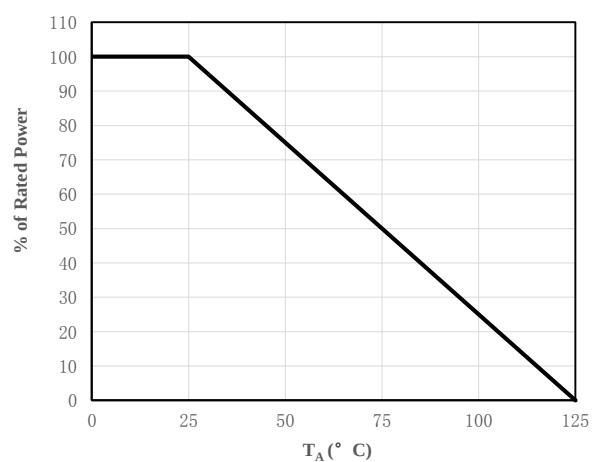
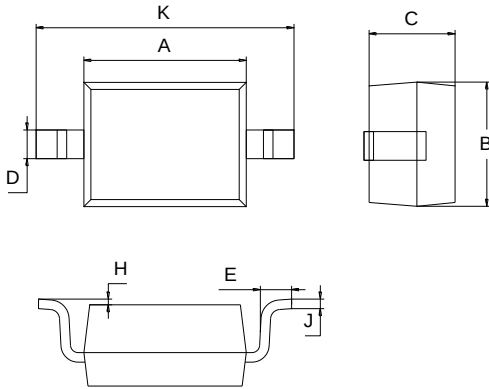
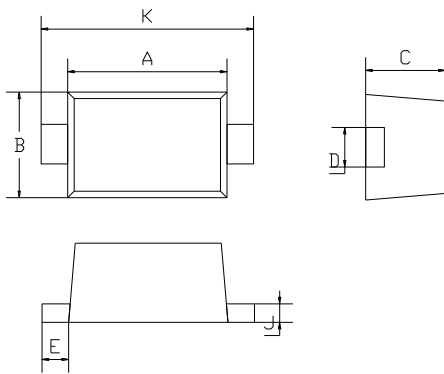


Fig 4 Power Derating Curve

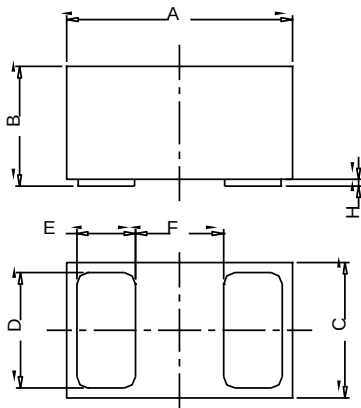
Package Outline Dimensions (Unit: mm)



SOD-323		
Dimension	Min.	Max.
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75



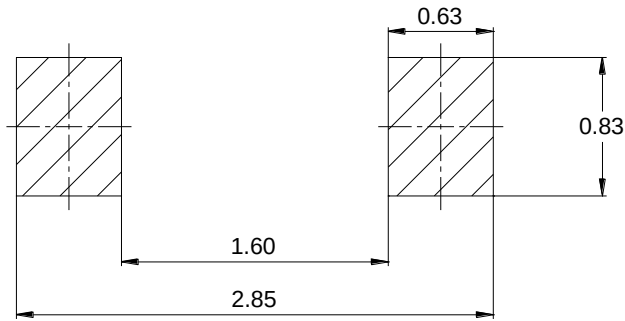
SOD-523		
Dimension	Min.	Max.
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
E	0.15	0.25
J	0.05	0.15
K	1.50	1.70



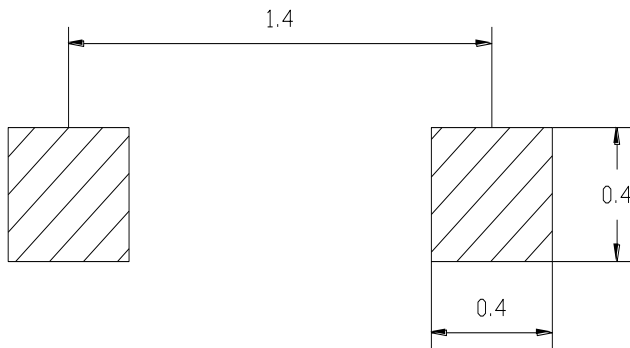
DFN1006-2			
Dimension	Min.	Typ.	Max.
A	0.95	1.00	1.075
B	0.47	0.50	0.53
C	0.55	0.60	0.675
D	0.45	0.50	0.55
E	0.20	0.25	0.30
F	-	0.40	-
H	0	0.03	0.05

Mounting Pad Layout (Unit: mm)

SOD-323



SOD-523



DFN1006-2

