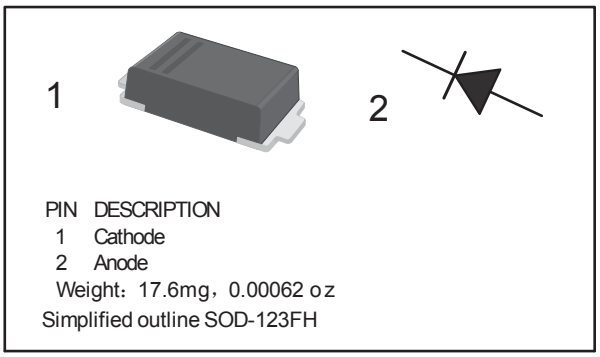
Fast Recovery diodes

RS1AFH ~ RS1MFH



■ Features

- Low leakage current
- Excellent stability
- Guaranteed avalanche energy absorption capability
- Glass passivated
- High maximum operating temperature

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	RS1A FH	RS1B FH	RS1D FH	RS1G FH	RS1J FH	RS1K FH	RS1M FH	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Surge Peak Reverse Voltage	V_{RSM}	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage	V_R	50	100	200	400	600	800	1000	
Averaged Forward Current.T_T=110℃	I_{FAV}	1							A
Peak Forward Surge Current T_j=25℃,V_R=V_{RRMMax}	I_{FSM}	25							
Thermal Resistance From Junction to Ambient (Note.1)	R_{thj-a}	100							K/W
(Note.2)		150							
Thermal Resistance Junction to Tie-Point	R_{thj-tp}	27							
Junction Temperature	Tj	150							℃
Storage Temperature	Tstg	-50 to 150							

Note.1 Device mounted on Al_2O_3 printed-circuit board, 0.7 mm thick; thickness of copper ⩾ 35 mm.

Note.2 Device mounted on epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper ⩾ 40 mm. For more information please refer to the 'General Part of associated Handbook'.

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Votalge	V_F	I_F=1A			1.3	V
Maximum DC Reverse Current	I_R	V_R=V_{RRMMax}			5	uA
		V_R=V_{RRMMax},T_J=125℃			50	
Reverse Recovery Time	t_{rr}	I_F = 0.5 A , I_R = 1A, RS1A to RS1J			250	ns
		I_F = 0.5 A,I_R=0.25A, RS1K and RS1M			300	
Diode Capacitance	C_d	VR=4V, f=1MHz		7		pF

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■ Typical Characterisitics

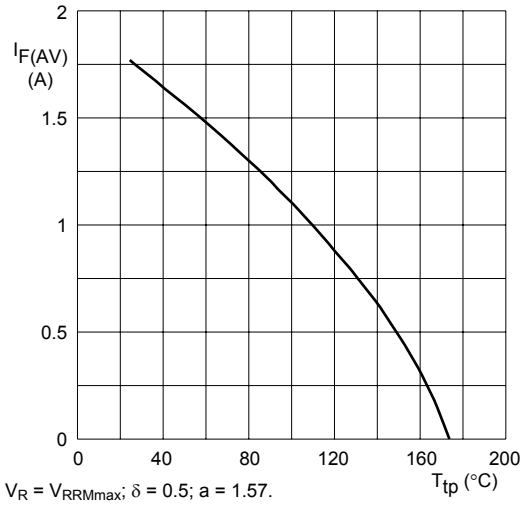

Fig.2 Maximum permissible average forward current as a function of tie-point temperature (including losses due to reverse leakage).

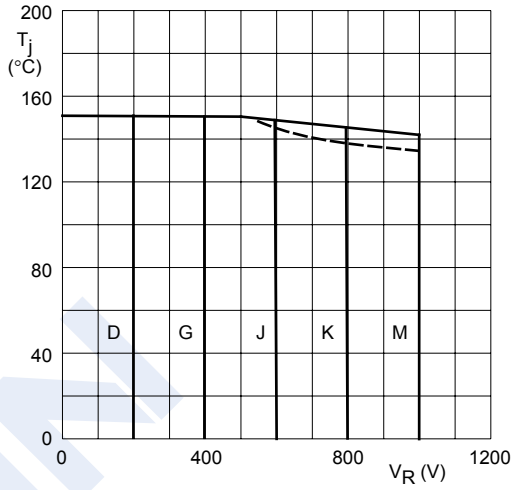

Fig.3 Maximum permissible junction temperature as a function of reverse voltage.

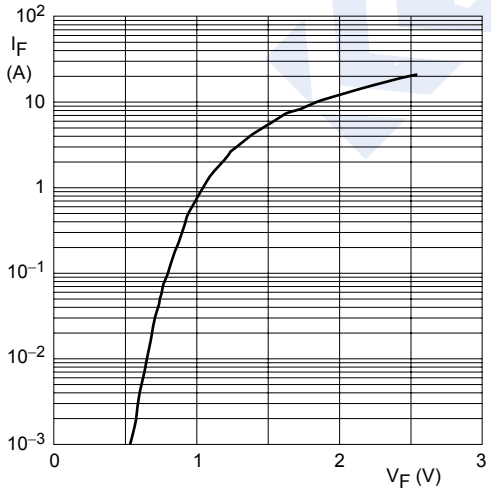

Fig.4 Forward current as a function of forward voltage; typical values.

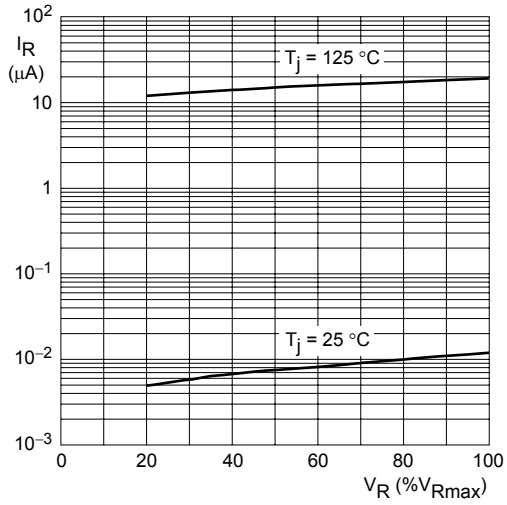

Fig.5 Reverse current as a function of reverse voltage; typical values.

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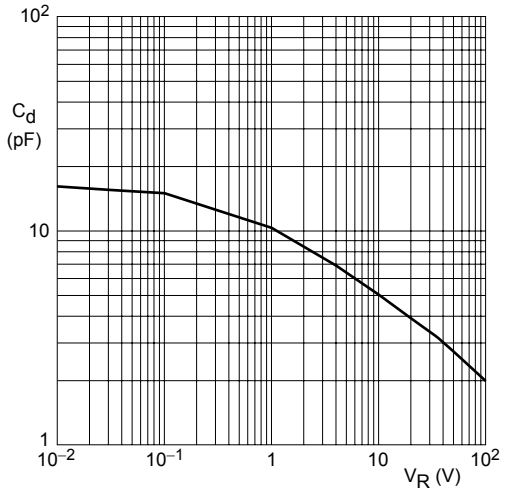
■ Typical Characterisitics



f = 1 MHz; T_j = 25 °C.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.

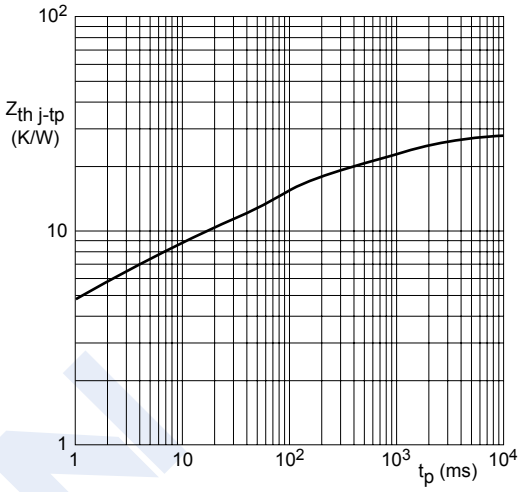


Fig.7 Transient thermal impedance as a function of pulse width.

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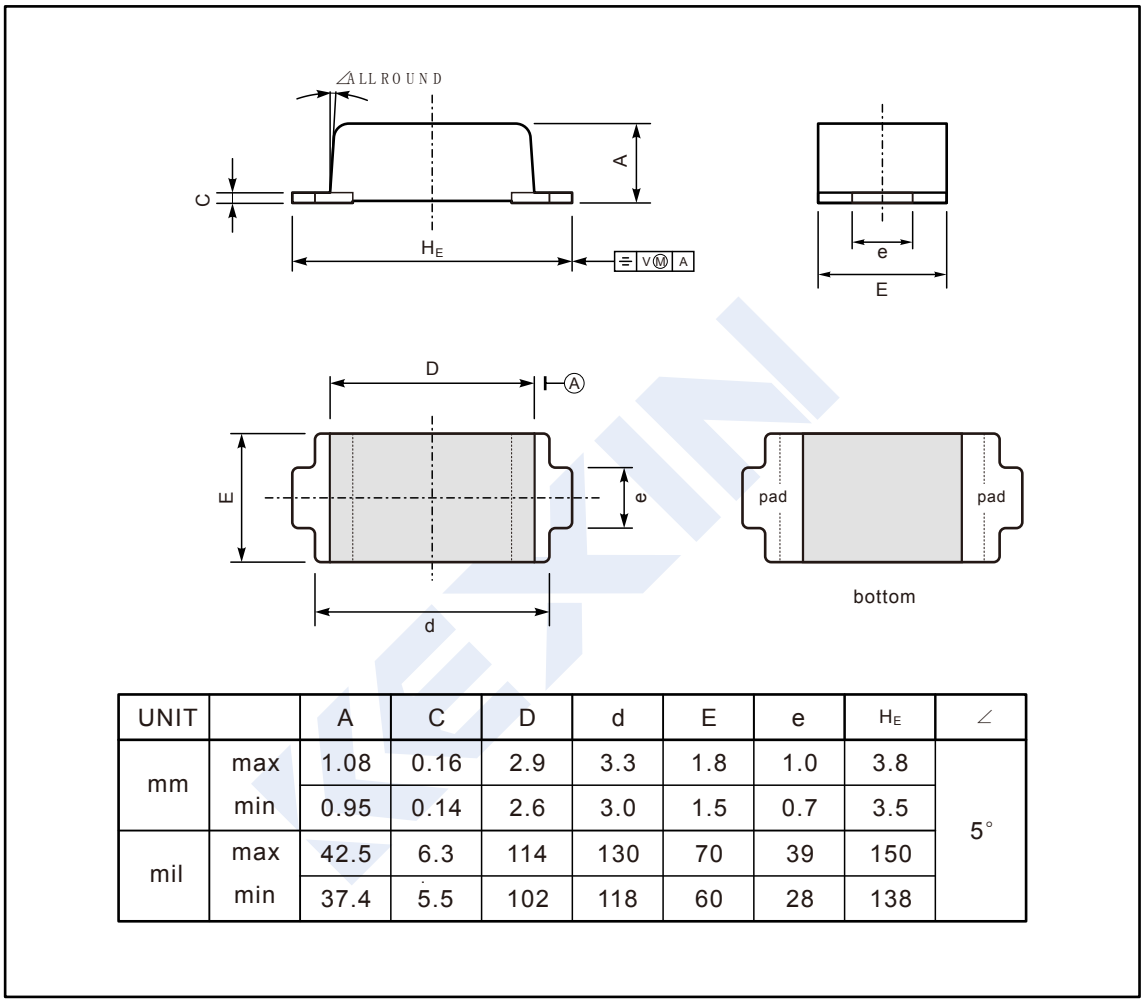
■ Typical Application

Plastic surface mounted package; 2 leads



UNIT		A	C	D	d	E	e	H_E	∠
mm	max	1.08	0.16	2.9	3.3	1.8	1.0	3.8	5°
	min	0.95	0.14	2.6	3.0	1.5	0.7	3.5	
mil	max	42.5	6.3	114	130	70	39	150	
	min	37.4	5.5	102	118	60	28	138