BORN SEMICONDUCTOR

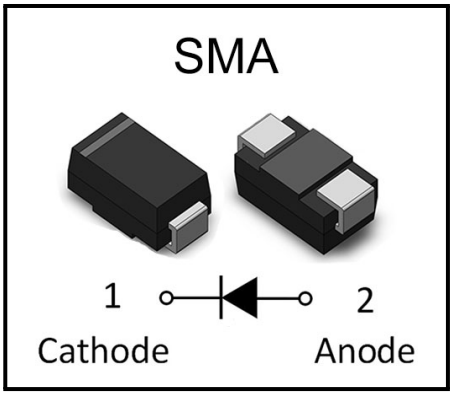
RS2A-RS2M

Fast Recovery Rectifier Diode

Features

- Super fast switching time for high efficiency
- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Epitaxial construction

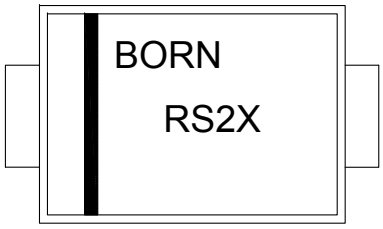
Package



Description

- Case: molded plastic
- Polarity: Color band denotes cathode
- Package: SMA Plastic Package

Making Code



Ordering information

Part Number	RS2A	RS2B	RS2D	RS2G	RS2J	RS2K	RS2M
Marking	RS2A	RS2B	RS2D	RS2G	RS2J	RS2K	RS2M
Base qty	5K	5K	5K	5K	5K	5K	5K

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Revision: 2022-Jan-1-A

RS2A-RS2M

Fast Recovery Rectifier Diode

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

Symbol	Parameter	RS2A	RS2B	RS2D	RS2G	RS2J	RS2K	RS2M	Unit
V_{RRM}	Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
V_{RMS}	Maximum RMS Voltage	35	70	140	280	420	560	700	V
V_{DC}	Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
$I_{(AV)}$	Maximum Average Forward Rectified Current at T_L = 110°C	2.0							A
I_{FSM}	Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated T_J = 125°C	50							A
V_F	Maximum Forward Voltage at 2.0A DC	1.3							V
I_R	Maximum Reverse Current at T_A = 25°C Rated DC Blocking Voltage T_A = 100°C	5.0 100							uA
T_{RR}	Maximum Reverse Recovery Time(Note1)	150				250	500		nS
C_J	Typical Junction Capacitance(Note2)	25				15			pF
$R_{\theta JA}$	Typical Thermal Resistance	25							°C/W
T_J	Operating Temperature Range	-55 to +150							°C
T_{STG}	Storage Temperature Range	-55 to +150							°C

Notes:(1)Measured with I_F=0.5A,I_R=1A,I_{RR}=0.25A

(2)Measured at 1.0 MHz and applied reverse voltage of 4.0V DC

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RS2A-RS2M

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Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1: Forward Current Derating Curve

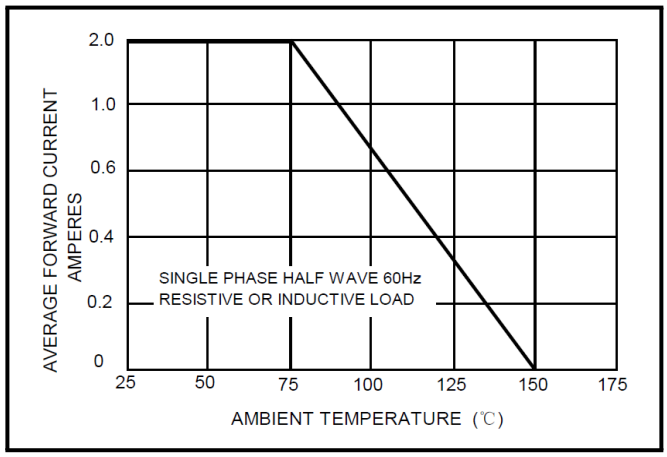


Figure 2: Maximum Non-Repetitive Surge Current

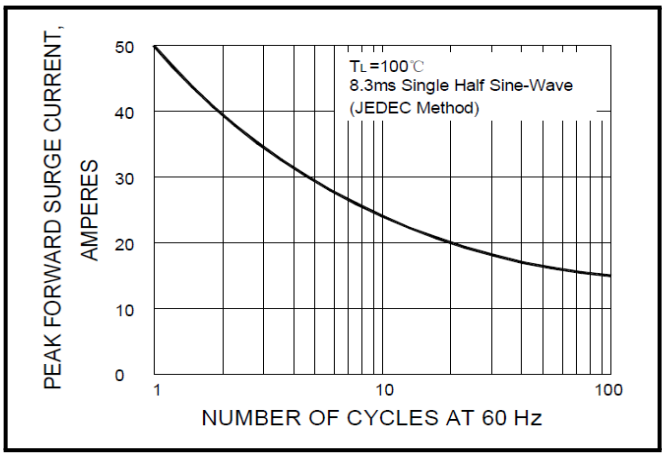


Figure 3: Typical Junction Capacitance

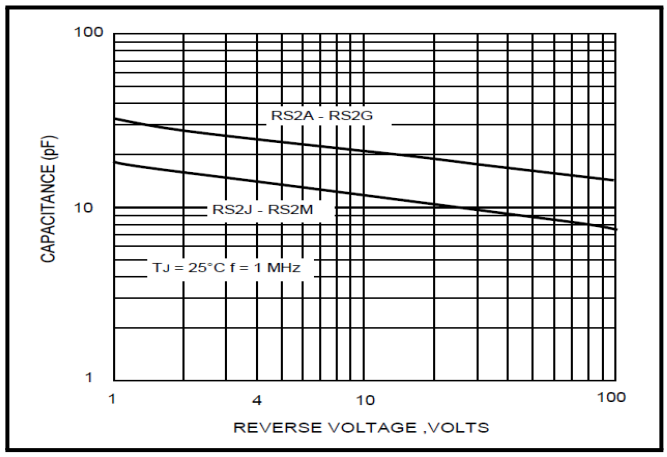
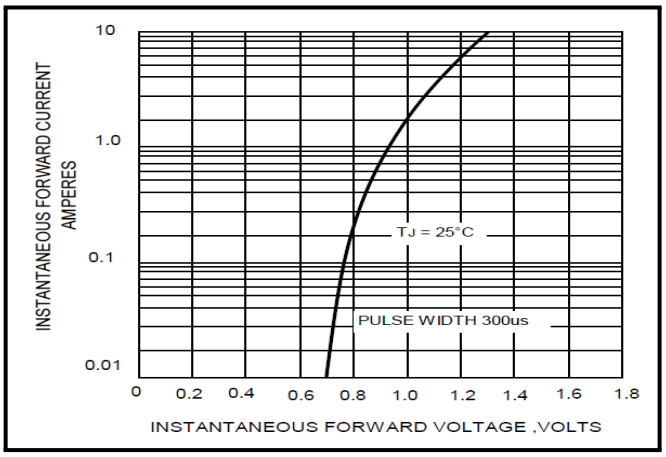


Figure 4: Typical Forward Characterisitics



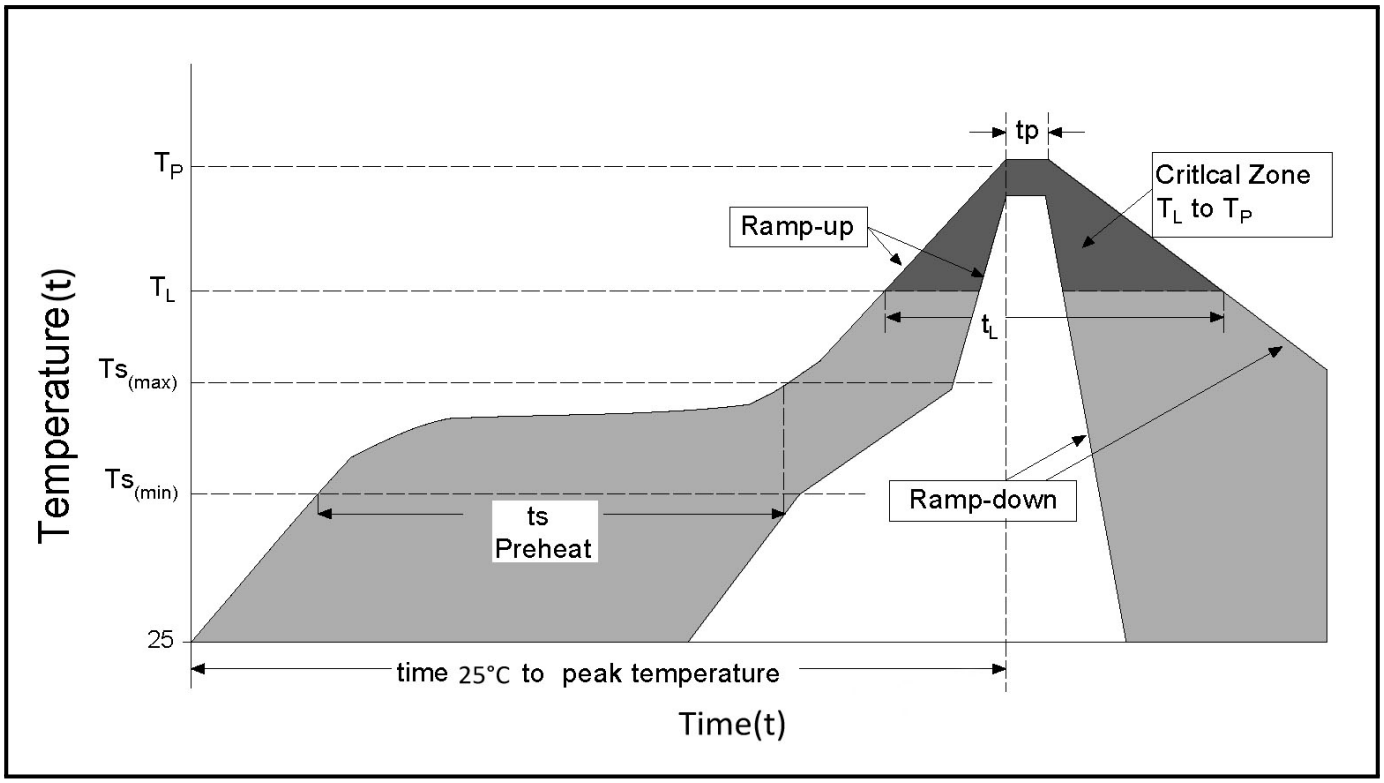
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RS2A-RS2M

Fast Recovery Rectifier Diode

Soldering Parameters



Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min (T_S(min))	150°C
	- Temperature Max (T_S(max))	200°C
	- Time (min to max) (t_S)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
T_S(max) to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 -150 secs
Peak Temperature (T_P)		$260^{+0/-5°C}$
Time within 5°C of actual peak Temperature (t_p)		20 -40 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C

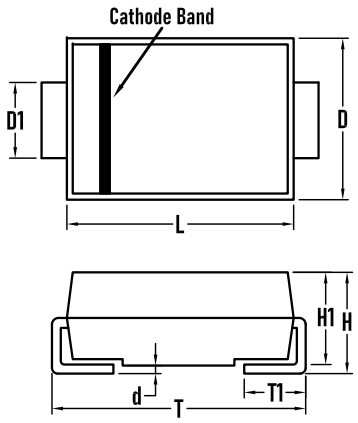
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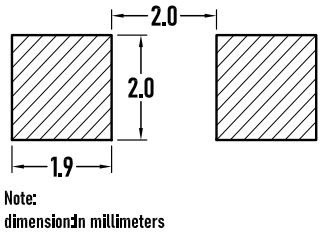
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Fast Recovery Rectifier Diode

Outline Drawing - SMA

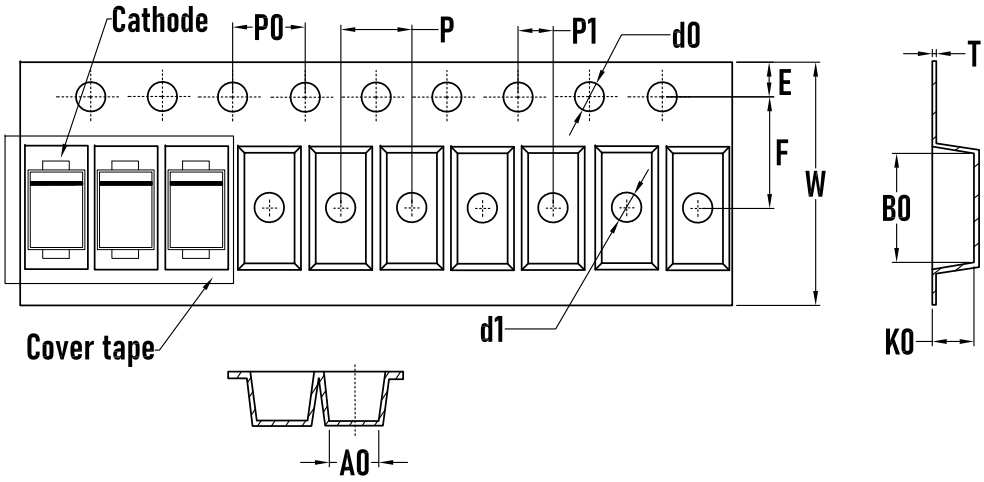




Note:
dimension:In millimeters

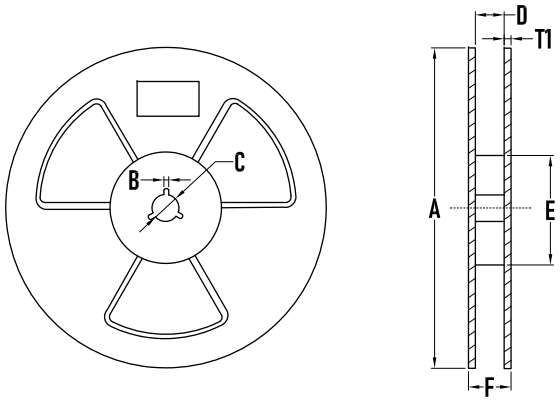
SYMBOL	MILLIMETER		Inches	
	MIN.	MAX.	MIN.	MAX.
D	2.5	2.9	0.098	0.114
D1	1.2	1.8	0.047	0.071
T	4.8	5.3	0.189	0.209
T1	0.8	1.5	0.031	0.059
d	–	0.2	–	0.008
H1	1.8	2.2	0.071	0.087
H	1.9	2.5	0.075	0.098
L	3.9	4.6	0.154	0.181

Packaging Tape - SMA



SYMBOL	MILLIMETER
A0	2.70
B0	5.10±0.1
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	5.50±0.1
K0	2.40±0.1
P	4.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	12.00±0.1
T	0.2±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	13±2
E	73±2
T1	2.2±0.2
Quantity	5000PCS

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