

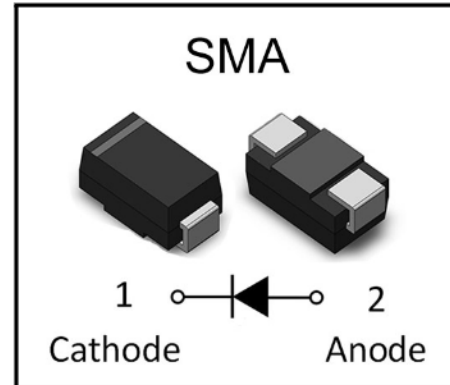
ES2A-ES2J

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

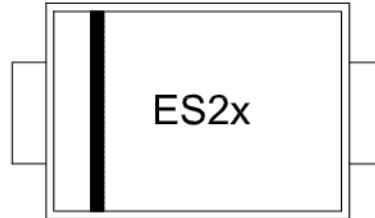
Package



Description

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

Making Code



Ordering information

Part Number	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J
Marking	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J
Base qty	5K	5K	5K	5K	5K	5K	5K



ES2A-ES2J

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

Symbol	Parameter	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J	Unit
V _{RRM}	Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	600	V
V _{RMS}	Maximum RMS Voltage	35	70	105	140	210	280	420	V
V _{DC}	Maximum DC Blocking Voltage	50	100	150	200	300	400	600	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	0.95				1.25		1.7	V
I _R	Maximum DC Reverse Current T _A = 25°C at Rated DC Blocking Voltage T _A = 100°C	5.0 100							uA
T _{RR}	Maximum Reverse Recovery Time(Note1)	35							nS
C _J	Typical Junction Capacitance(Note2)	17							pF
R _{θJA}	Typical Thermal Resistance	60							°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



ES2A-ES2J

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Typical Performance Characteristics($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1: Typical Forward Characteristics

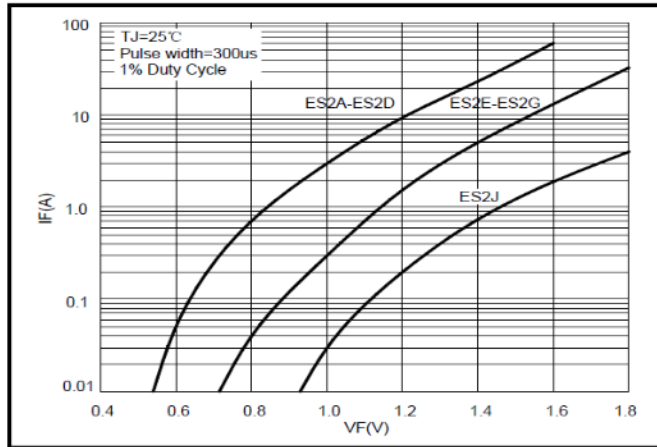


Figure 2: Typical Junction Capacitance

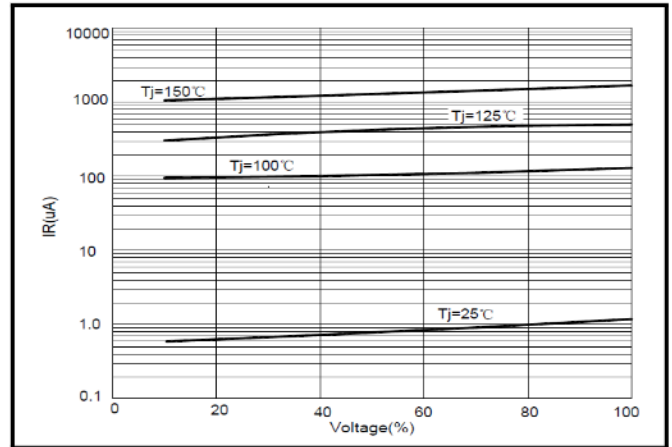


Figure 3: Forward Current Derating Curve

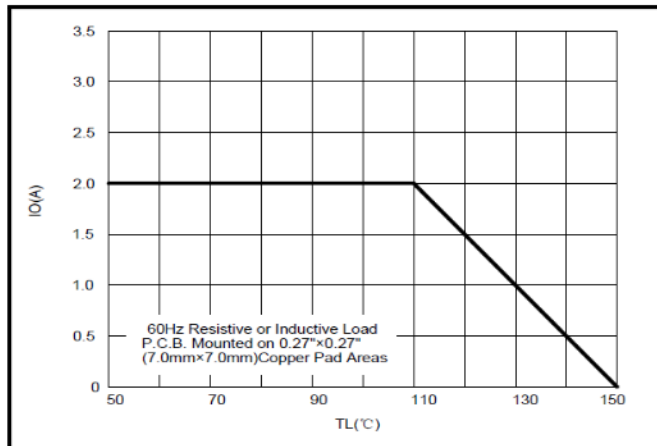


Figure 4: Peak Forward Surge Current

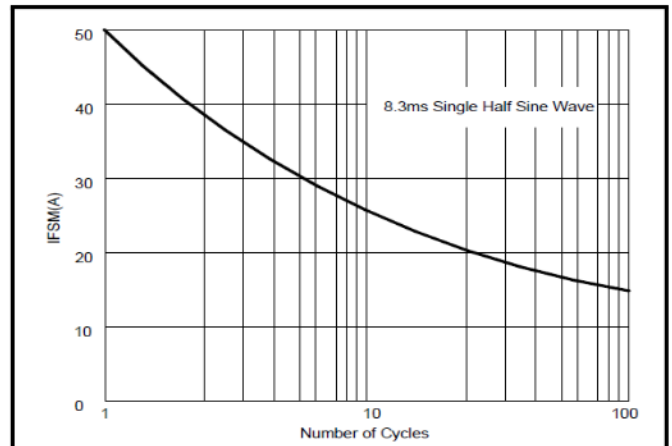
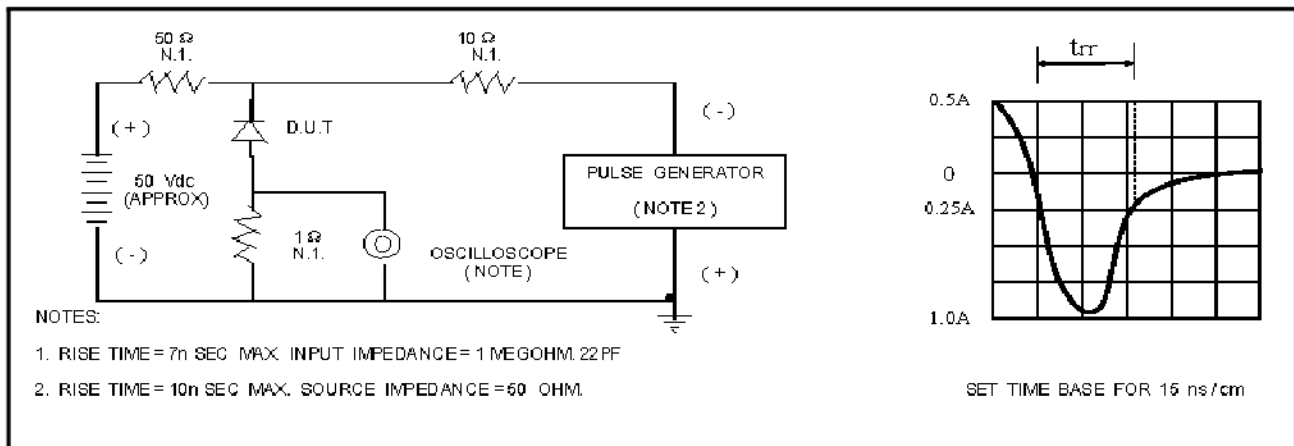
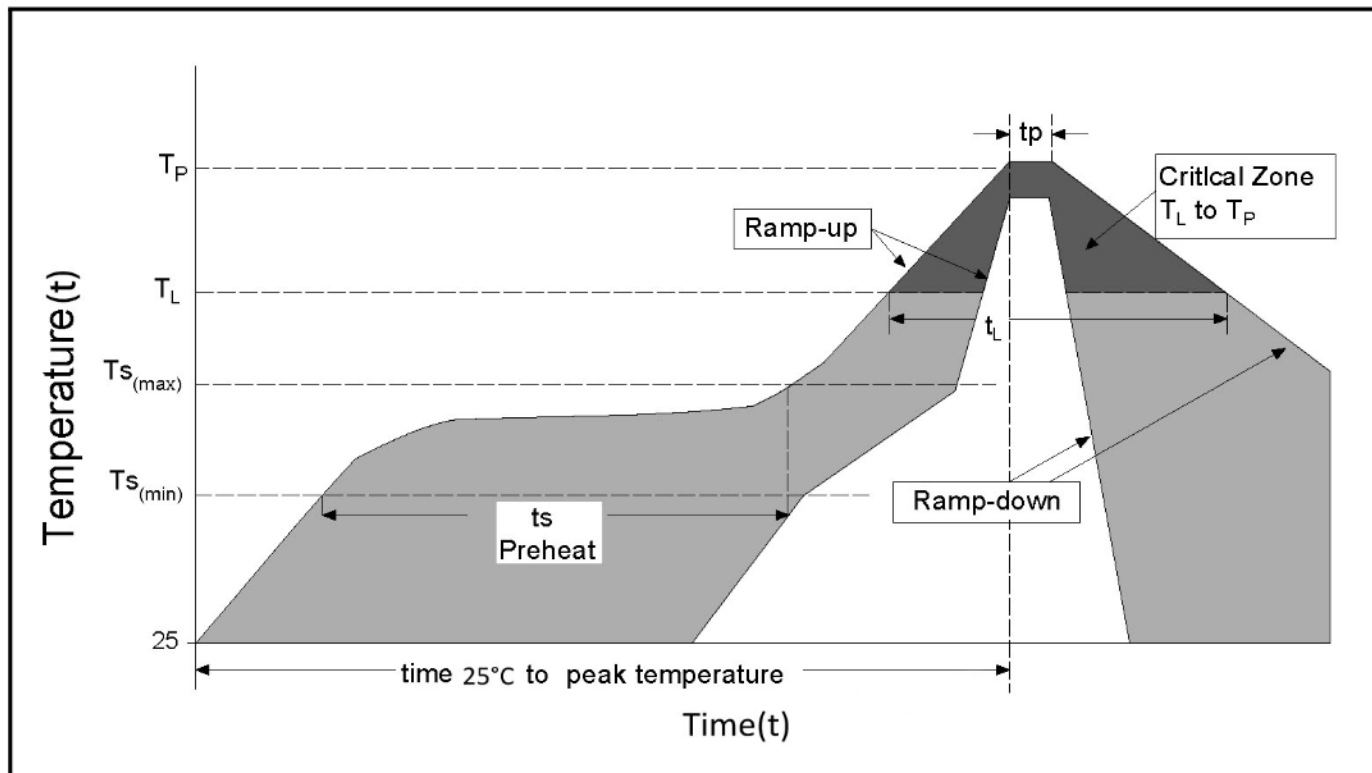


Figure 5: Test Circuit Diagram And Recover Time Characteristic



Soldering Parameters



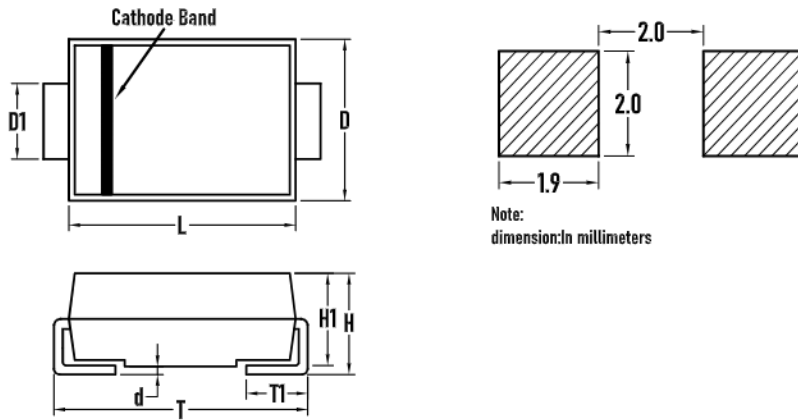
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{S(min)}$)	150°C
	- Temperature Max ($T_{S(max)}$)	200°C
	- Time (min to max) (t_s)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (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



ES2A-ES2J

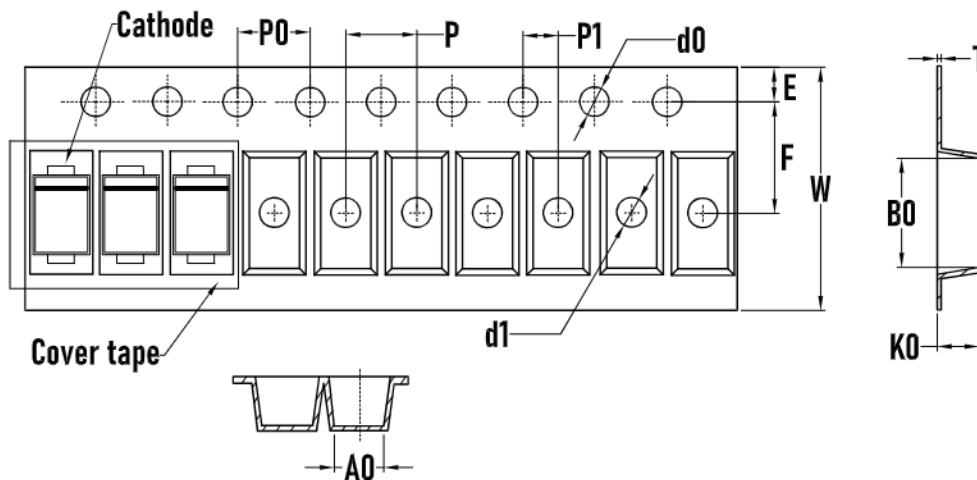
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Outline Drawing - SMA



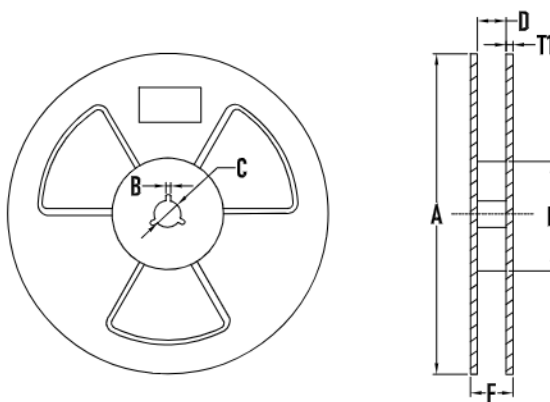
SYMBOL	MILLIMETER		Inches	
	MIN.	MAX.	MIN.	MAX.
D	2.5	2.9	0.098	0.114
D1	1.2	1.8	0.047	0.071
T	4.8	5.3	0.189	0.209
T1	0.8	1.5	0.031	0.059
d	—	0.2	—	0.008
H1	1.8	2.2	0.071	0.087
H	1.9	2.5	0.075	0.098
L	3.9	4.6	0.154	0.181

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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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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