BORN SEMICONDUCTOR

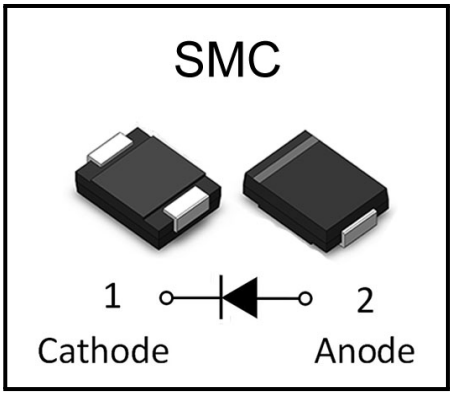
ES5A-ES5J

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

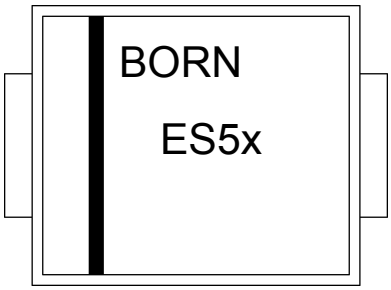
Package



Description

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

Making Code



Ordering information

Part Number	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Marking	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Base qty	3K	3K	3K	3K	3K	3K	3K	3K

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ES5A-ES5J

Fast Recovery Rectifier Diode

Maximum Ratings and Electrical Characteristics@T_A=25°C unless otherwise noted

Symbol	Parameters	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J	Units
V_{RRM}	Max. Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V
V_{RMS}	Maximum RMS Voltage	35	70	105	140	210	280	350	420	V
V_{DC}	Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V
I_{AV}	Maximum Average Forward Rectified Current	5.0								A
I_{FSM}	Forward Surge Current @60Hz Half-sine wave,1 cycle, T_j=25°C	150								A
	Forward Surge Current@1ms, quare wave, 1 cycle, T_j=25°C	300								A
V_F	Maximum Forward Voltage@I_{FM}=5.0A	0.95				1.3		1.7		V
I_R	Max. DC reverse current@T_j=25°C	5								uA
	Max. DC reverse current@T_j=125°C	100								
I^2t	Current squared time @1ms≤t≤8.3ms T_j=25°C	94								A^2s
t_{rr}	Maximum reverse recovery time @I_F=0.5A,I_R=1.0A,I_{rr}=0.25A	35								ns
C_j	Typ. junction capacitance Measured at 1Mhz and Applied Reverse Voltage of 4.0V.D.C	75				37		35		pF
$R_{\theta JA}$(1)	Typical Thermal Resistance	50								°C/W
$R_{\theta JL}$(1)		15								
$R_{\theta JC}$(1)		12								
T_J	Operating Junction Temperature Range	-55 to +150								°C
T_{STG}	Storage Temperature Range	-55 to +150								°C

Note1: (1)Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6” x 0.6” (16 mm x 16 mm) copper pad areas

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ES5A-ES5J

Fast Recovery Rectifier Diode

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

Figure 1: I_O–T_L Curve

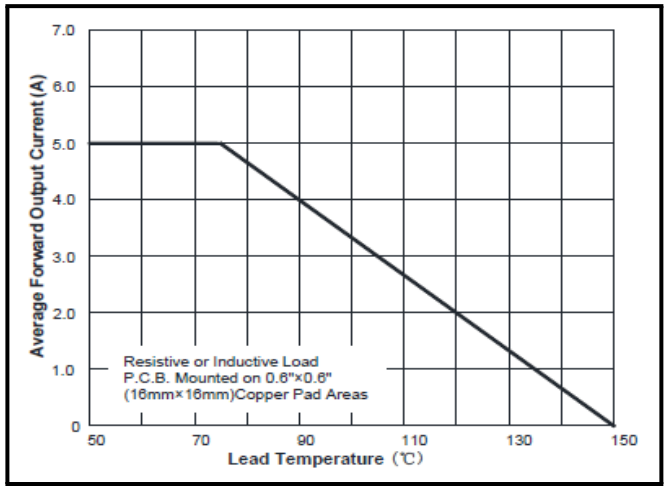


Figure 2:Surge Forward Current Capability

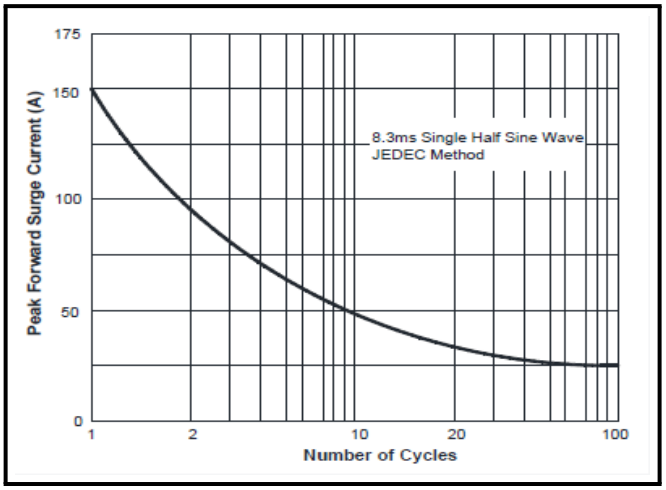


Figure 3:Typial Forward Voltage

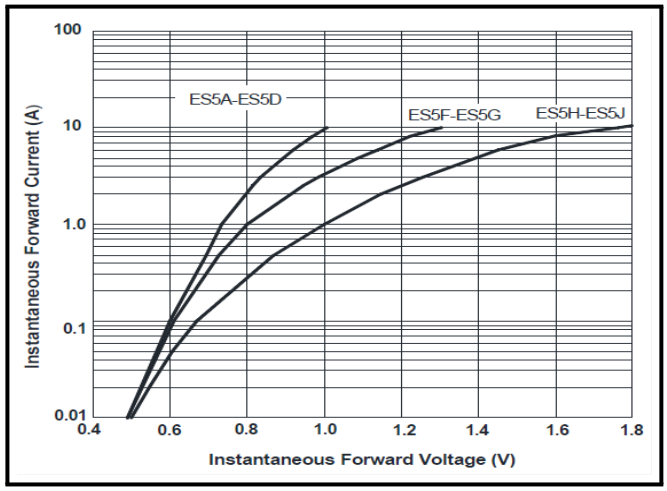
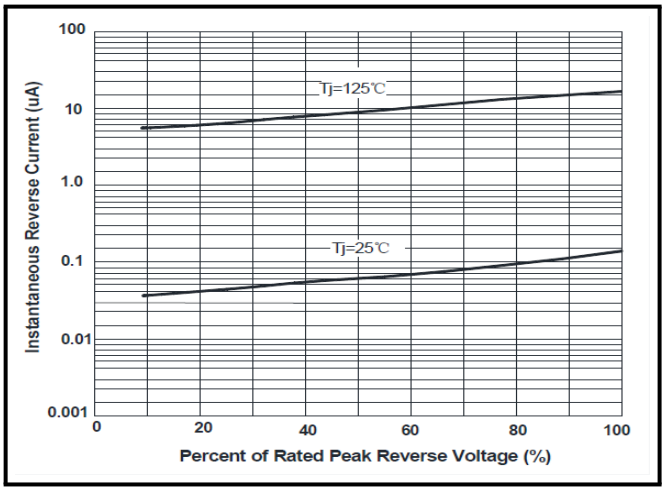


Figure 4:Typical Reverse Characteristics



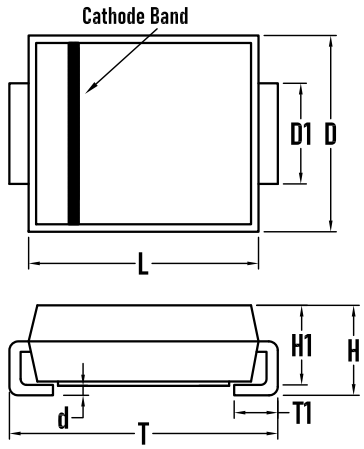
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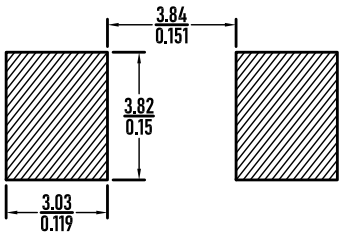
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ES5A-ES5J

Fast Recovery Rectifier Diode

Package Mechanical Data - SMC

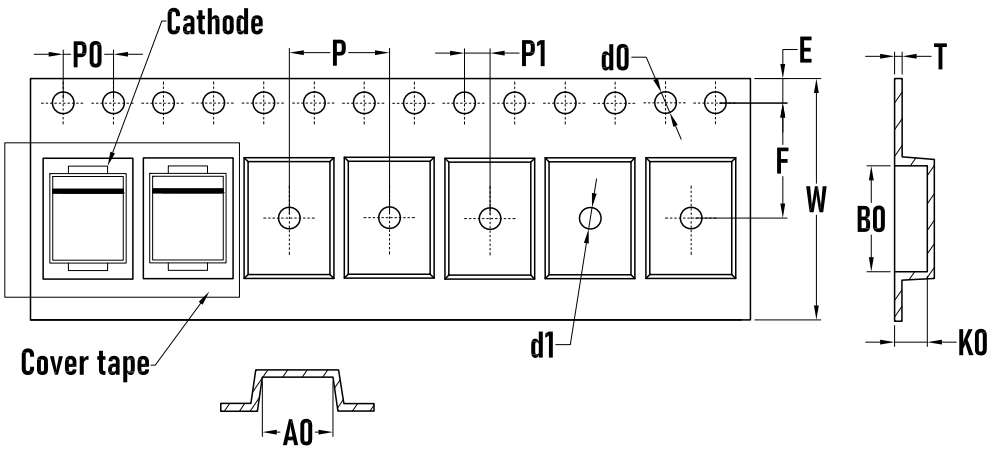




Note:
dimensions: mm / inch

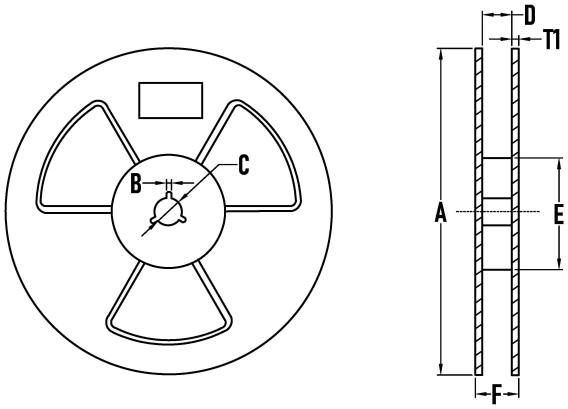
SYMBOL	MILLIMETER	
	MIN	MAX
D	5.75	6.15
D1	2.70	3.30
T	7.65	8.25
T1	0.90	1.50
d	–	0.3
H1	2.07	2.47
H	2.20	2.60
L	6.70	7.10

Packaging Tape - SMC



SYMBOL	MILLIMETER
A0	6.00±0.1
B0	8.25±0.02
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	7.50±0.1
K0	2.70±0.1
P	8.00±0.1
P0	4.00±0.1
P1	2.00±0.05
W	16.00±0.1
T	0.22±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	16±2
E	73±2
T1	2.2±0.2
Quantity	3000PCS

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