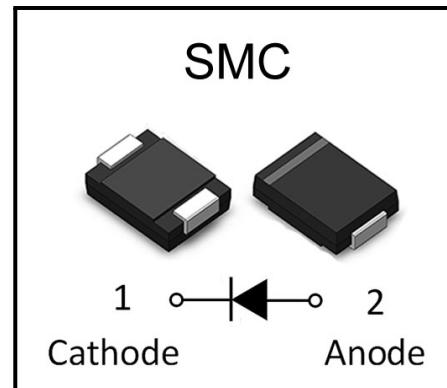


**Features**

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

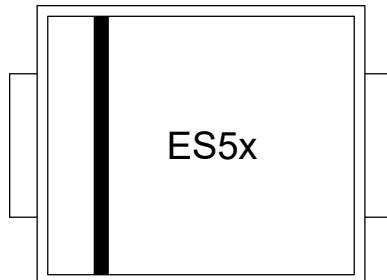
**Package**



**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							



# ES5A-ES5J

Fast Recovery  
Rectifier Diode

Maximum Ratings and Electrical Characteristics@ $T_A=25^\circ C$  unless otherwise noted

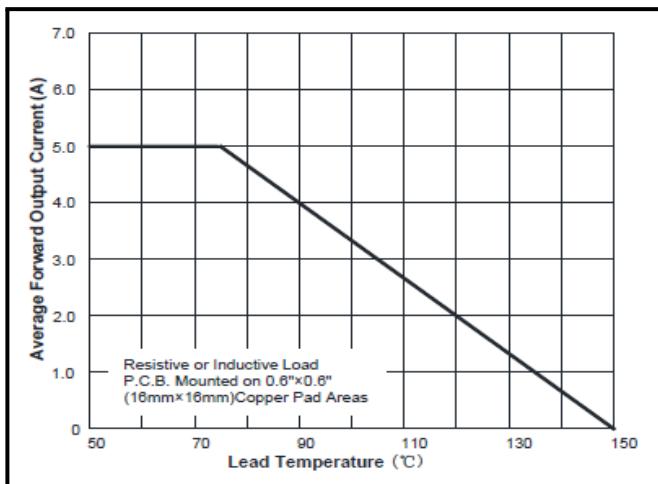
Symbol	Parameters	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J	Units							
$V_{RRM}$	Max. Recurrent Peak Reverse Voltage	50	100	150	200	300	400	500	600	V							
$V_{RMS}$	Maximum RMS Voltage	35	70	105	140	210	280	350	420	V							
$V_{DC}$	Maximum DC Blocking Voltage	50	100	150	200	300	400	500	600	V							
$I_{AV}$	Maximum Average Forward Rectified Current	5.0						A									
$I_{FSM}$	Forward Surge Current @60Hz Half-sine wave, 1 cycle, $T_j=25^\circ C$	150						A									
	Forward Surge Current@1ms, square wave, 1 cycle, $T_j=25^\circ C$	300						A									
$V_F$	Maximum Forward Voltage@ $I_{FM}=5.0A$	0.95		1.3		1.7		V									
$I_R$	Max. DC reverse current@ $T_j=25^\circ C$	5						uA									
	Max. DC reverse current@ $T_j=125^\circ C$	100						uA									
$I^2t$	Current squared time @ $1ms \leq t \leq 8.3ms$ $T_j=25^\circ C$	94						A <sup>2</sup> s									
$t_{rr}$	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

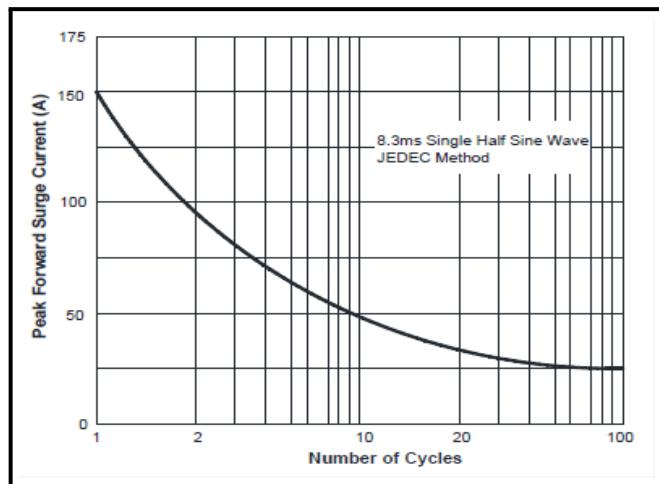


**Typical Performance Characteristics( $T_J = 25^\circ\text{C}$ , unless otherwise noted)**

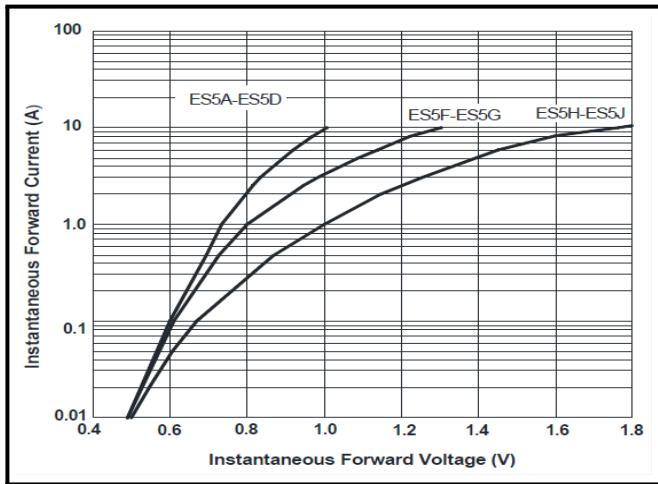
**Figure 1:  $I_O-T_L$  Curve**



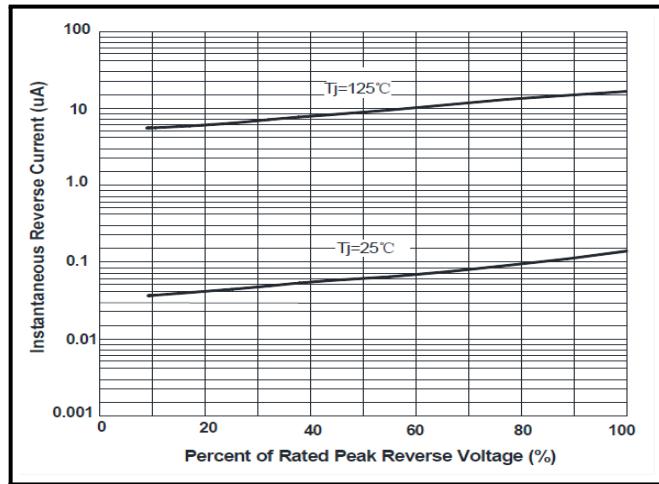
**Figure 2: Surge Forward Current Capability**



**Figure 3:Typial Forward Voltage**



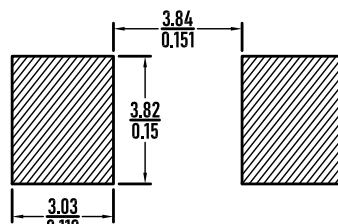
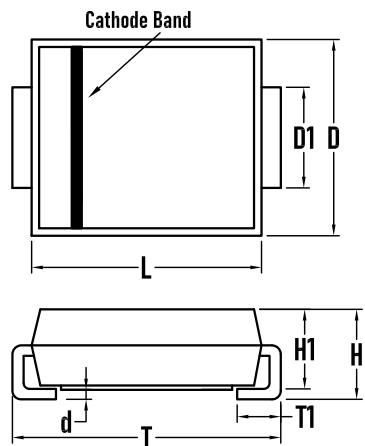
**Figure 4:Typical Reverse Characteristics**



# ES5A-ES5J

Fast Recovery  
Rectifier Diode

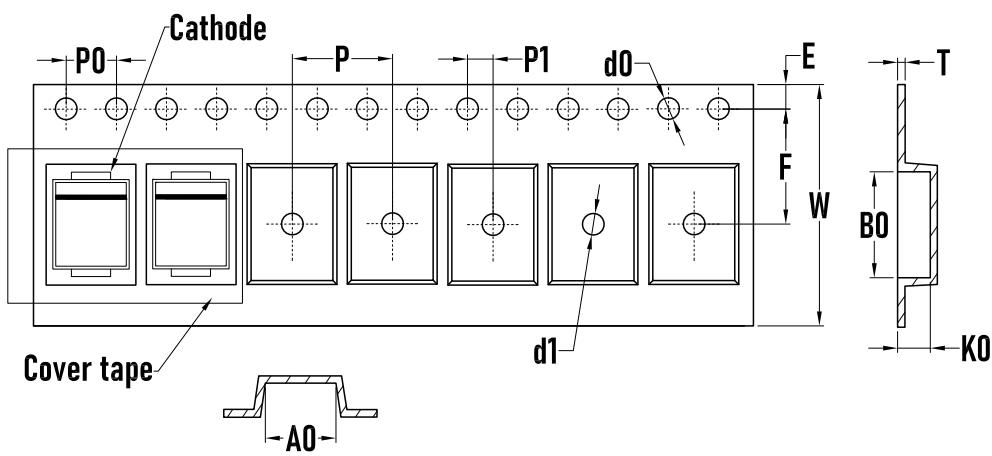
## Package Mechanical Data - SMC



Note:  
dimensions:  $\frac{\text{mm}}{\text{inch}}$

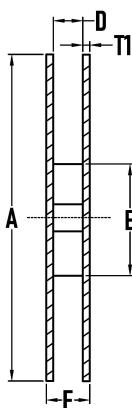
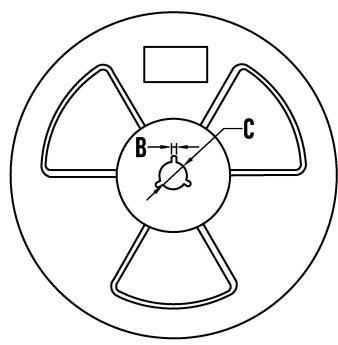
SYMBOL	MILLIMETER	
	MIN	MAX
D	5.75	6.15
D1	2.70	3.30
T	7.65	8.25
T1	0.90	1.50
d	—	0.3
H1	2.07	2.47
H	2.20	2.60
L	6.70	7.10

## Packaging Tape - SMC



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

## Packaging Reel



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

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RIGHT RESERVED**

Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information. Revision: 2022-Jan-1-A

