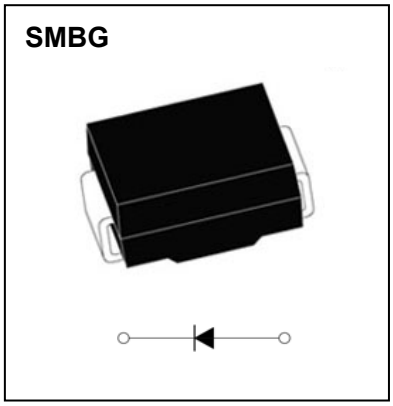
SMBG Plastic-Encapsulate Diodes

ES2A THRU ES2J Super Fast Recovery Rectifier Diodes

Features

- $I_{F(AV)}$ 2A
- V_{RRM} 50V-600V
- High surge current capability
- Polarity: Color band denotes cathode



Applications

- Rectifier

Marking

- ES2X

  X：From A To J

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES2							
				A	B	C	D	E	G	H	J
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	150	200	300	400	500	600
Maximum RMS Voltage	V_{RMS}	V		35	70	105	140	210	280	350	420
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load	2.0							
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, Ta=25℃	50							
Operation Junction and Storage Temperature Range	T_J,T_{STG}	℃		-55 ~ +150							

Electrical Characteristics (T=25℃ Unless otherwise specified)

Item	Symbol	Unit	Test Condition		ES2							
					A	B	C	D	E	G	H	J
Peak Forward Voltage	V_F	V	I_F=2.0A		0.95				1.25		1.7	
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A,I_{rr}=0.25A		35							
Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM}	Ta=25℃	5.0							
	I_{RRM2}			Ta=125℃	50							
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	Between junction and ambient		65							
	$R_{\theta J-L}$		Between junction and terminal		18							
Juction Capacitance (Typical)	Cj	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C		26				20			

Notes:

Thermal resistance from junction to ambient and from juction to lead mounted on FR4 PCB double sided copper mini pad

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

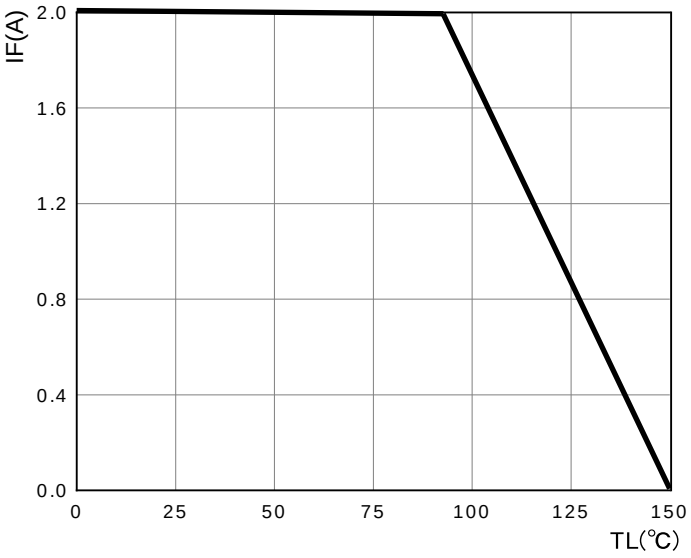
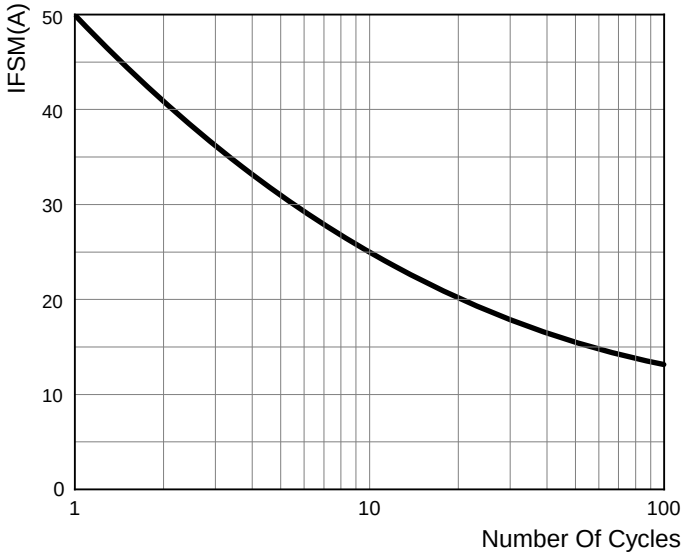
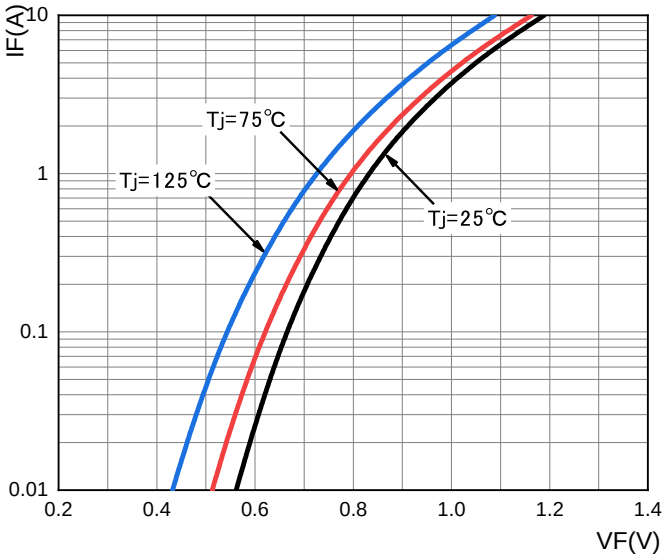


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



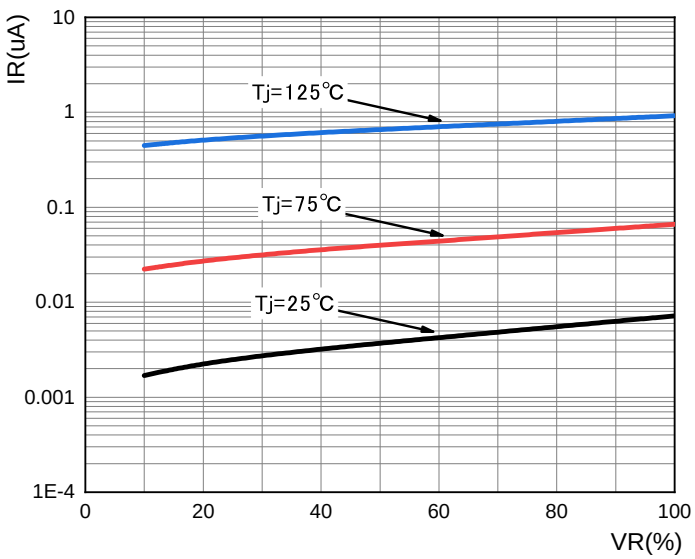
ES2A-ES2D

FIG.3 : TYPICAL FORWARD CHARACTERISTICS



ES2A-ES2D

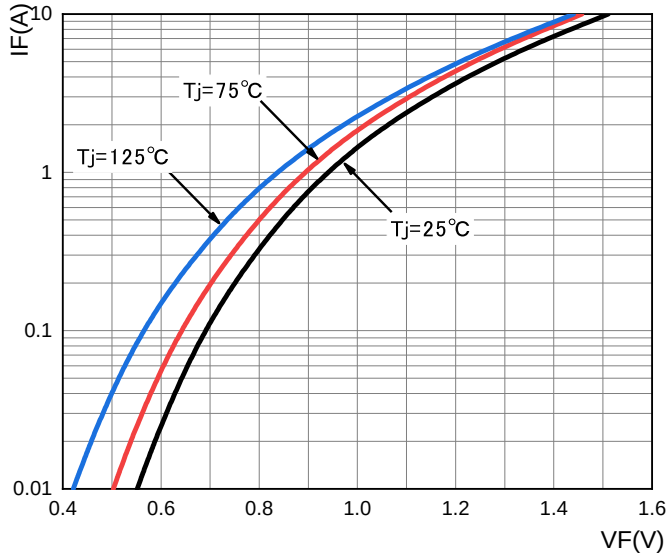
FIG.4 TYPCAL REVERSE CHARACTERISTICS



Typical Characteristics

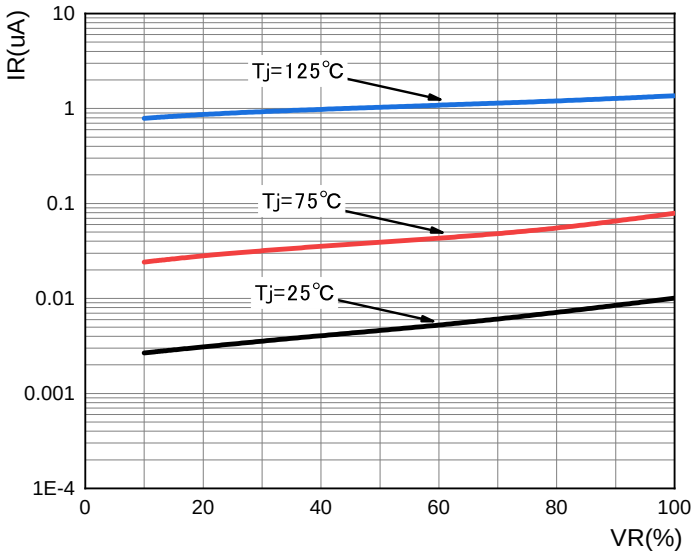
ES2E-ES2G

FIG.5 : TYPICAL FORWARD CHARACTERISTICS



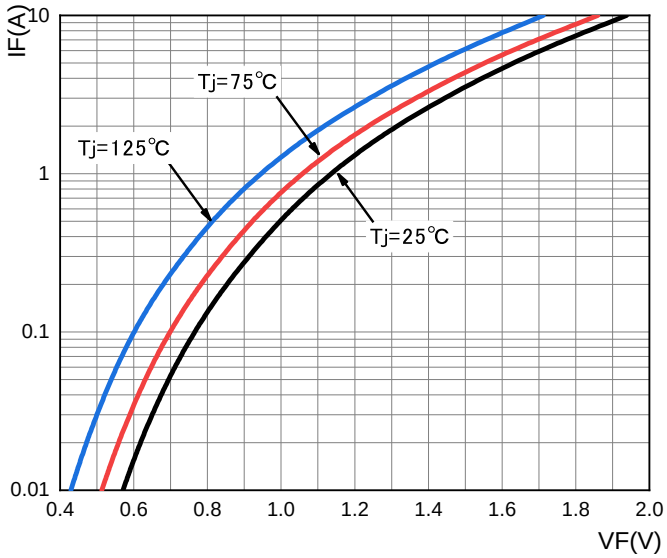
ES2E-ES2G

FIG.6 TYPCAL REVERSE CHARACTERISTICS



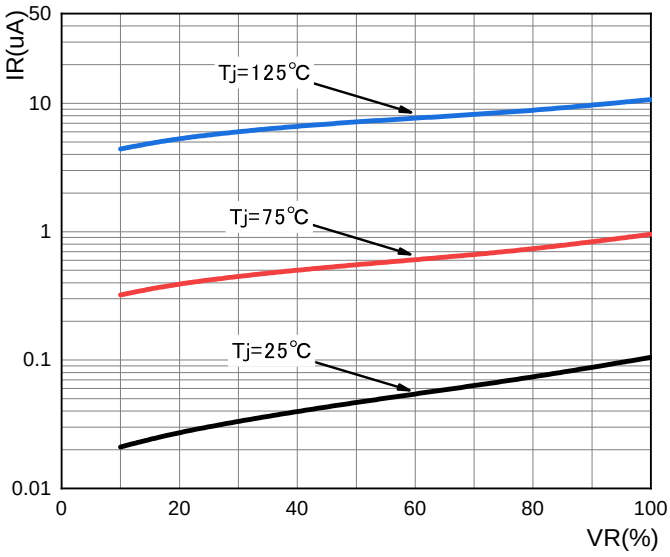
ES2H-ES2J

FIG.7 : TYPICAL FORWARD CHARACTERISTICS

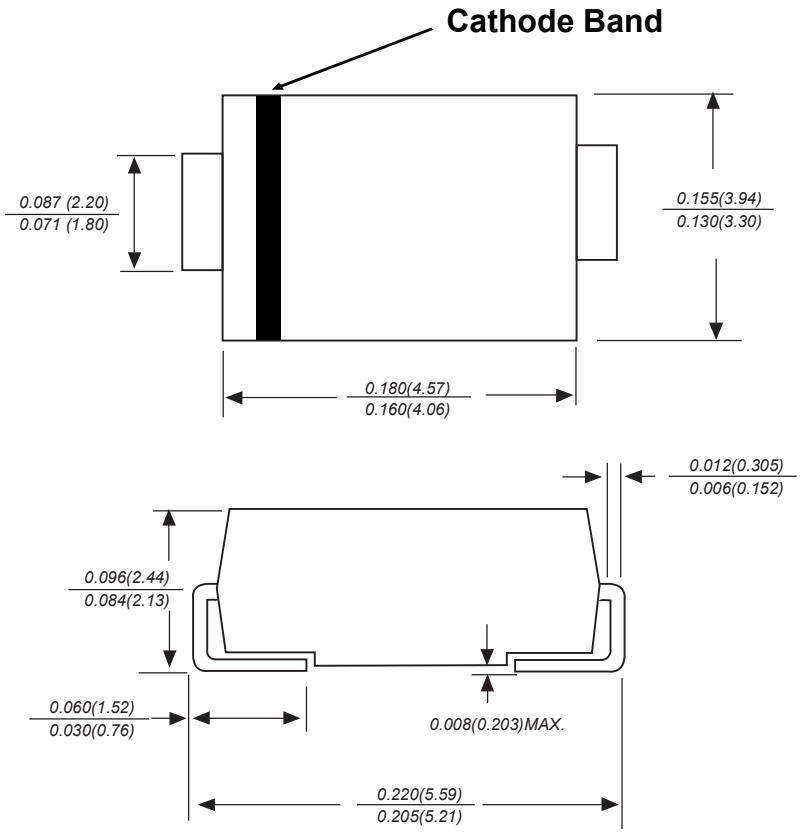


ES2H-ES2J

FIG.8 TYPCAL REVERSE CHARACTERISTICS

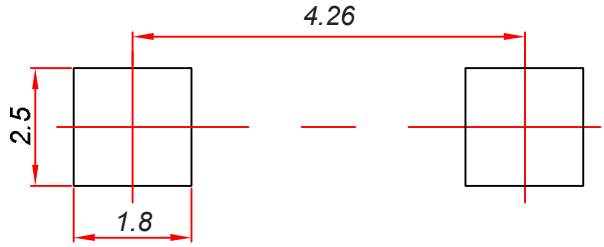


SMBG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBG Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

Reel Taping Specifications For Surface Mount Devices-SMBG

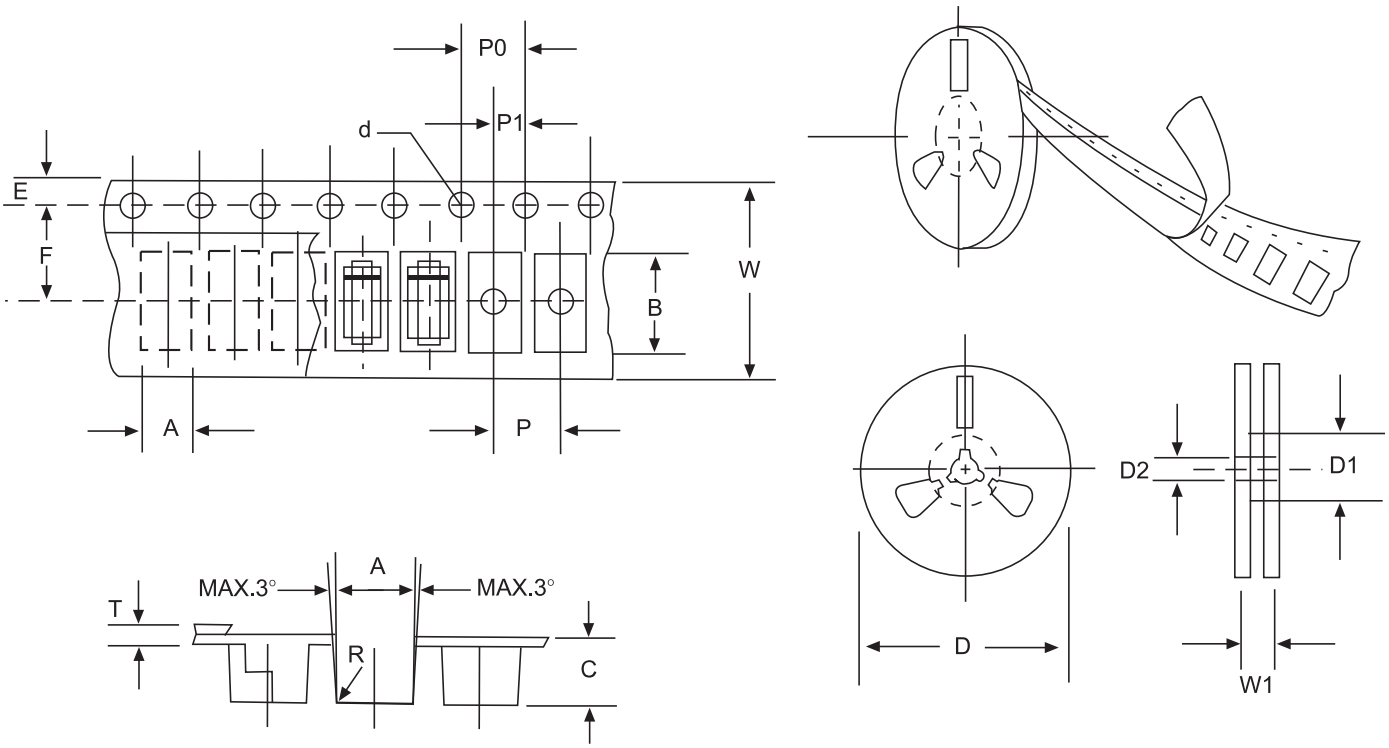


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMBG mm(inch)
Carrier width	A	4.09±0.1(0.161±0.004)
Carrier length	B	5.82±0.1(0.229±0.004)
Carrier depth	C	2.50±0.1(0.100±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330±2.0(13±0.079)
Reel inner diameter	D1	75±1.0(2.95±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Stroket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	5.65±0.05(0.222±0.002)
Punch hole pitch	P	8.0±0.1(0.315±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Totall tape thickness	T	0.32±0.1(0.013±0.004)
Tape width	W	12.0±0.2(0.472±0.008)
Reel width	W1	16.8±2.0(0.661±0.079)

NOTE:Devices are packed in accordance with EIA standard RS-481-A and specification given above.