

1.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

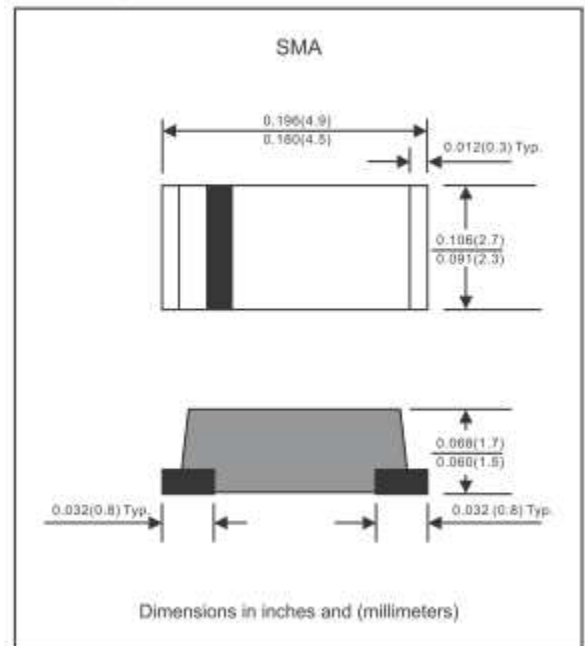
Features

- ◆ Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- ◆ Low profile surface mounted application in order to optimize board space.
- ◆ Low power loss, high efficiency.
- ◆ High current capability, low forward voltage drop.
- ◆ High surge capability.
- ◆ Guardring for overvoltage protection.
- ◆ Ultra high-speed switching.
- ◆ Silicon epitaxial planar chip, metal silicon junction.
- ◆ Lead-free parts meet environmental standards of MIL-STD-19500 /228
- ◆ Suffix "H" indicates Halogen-free parts, ex. ECCSR120L1HR

Mechanical Data

- ◆ Epoxy : UL94-V0 rated flame retardant
- ◆ Case : Molded plastic, DO-214AC / SMA
- ◆ Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- ◆ Polarity : Indicated by cathode band
- ◆ Mounting Position : Any
- ◆ Weight : Approximated 0.05 gram

Package outline



Maximum ratings and Electrical Characteristics (At $T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_o			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM} T_J = 25\text{ }^\circ\text{C}$	I_R			0.5	mA
	$V_R = V_{RRM} T_J = 125\text{ }^\circ\text{C}$				10	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		64		
	Junction to case	$R_{\theta JC}$		32		
Diode junction capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		120		pF
Storage temperature		T_{STG}	-65		175	$^\circ\text{C}$

1.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

SYMBOLS	*1 VRRM (V)	*2 VRMS (V)	*3 VR (V)	*4 VF (V)	Operating temperature T _J , (°C)
ECCSR120	20	14	20	0.50	-55 to +125
ECCSR130	30	21	30		
ECCSR140	40	28	40		
ECCSR150	50	35	50	0.70	-55 to +150
ECCSR160	60	42	60		
ECCSR180	80	56	80	0.85	
ECCSR1100	100	70	100		
ECCSR1150	150	105	150	0.90	
ECCSR1200	200	140	200	0.92	

- *1 Repetitive peak reverse voltage
- *2 RMS voltage
- *3 Continuous reverse voltage
- *4 Maximum forward voltage@I_F=1.0A

Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

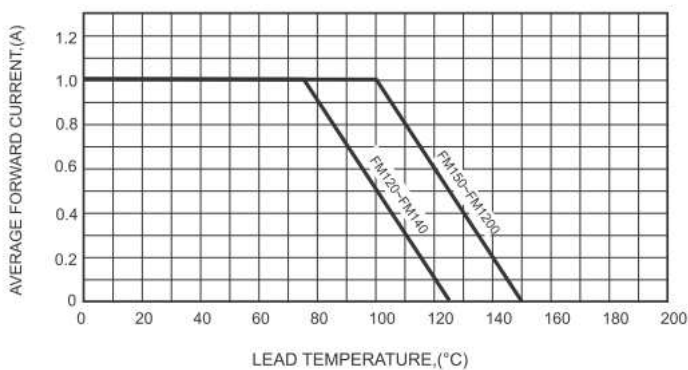
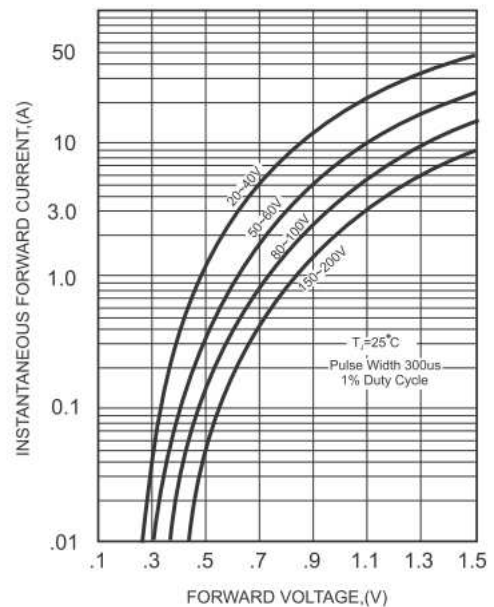


FIG.2-TYPICAL FORWARD CHARACTERISTICS



1.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

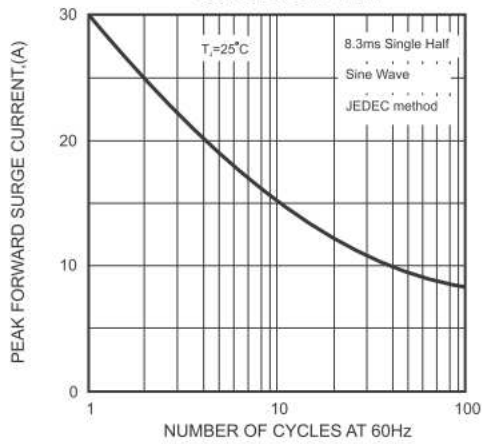


FIG.4-TYPICAL JUNCTION CAPACITANCE

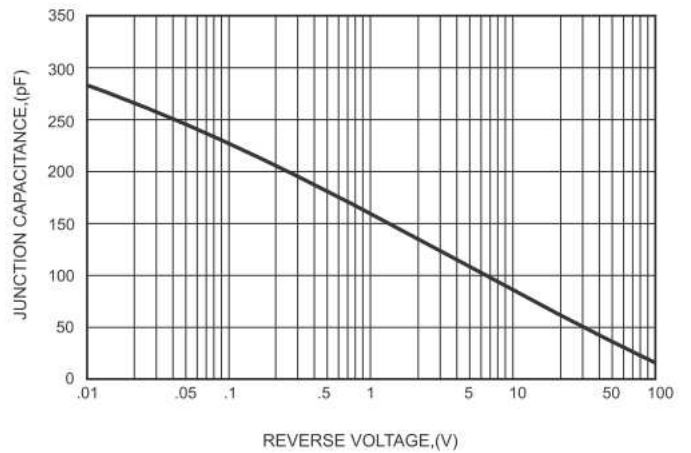
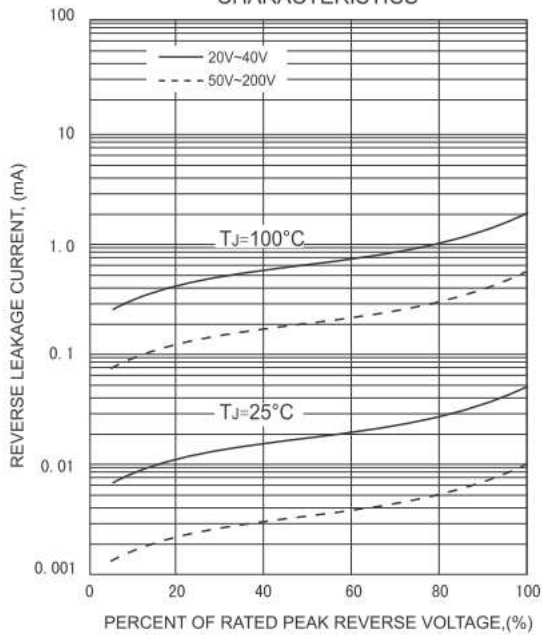


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

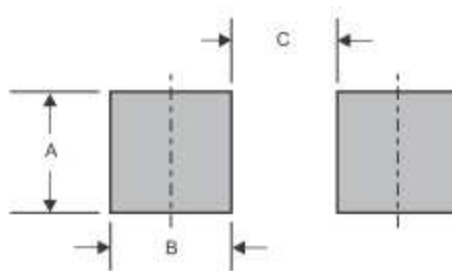
1.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

Marking

Part No	Marking
ECCSR120L1R / ECCSR120L1HR	SS12
ECCSR130L1R / ECCSR130L1HR	SS13
ECCSR140L1R / ECCSR140L1HR	SS14
ECCSR150L1R / ECCSR150L1HR	SS15
ECCSR160L1R / ECCSR160L1HR	SS16
ECCSR180L1R / ECCSR180L1HR	SS18
ECCSR1100L1R / ECCSR1100L1HR	S100
ECCSR1150L1R / ECCSR1150L1HR	S150
ECCSR1200L1R / ECCSR1200L1HR	S200

H: Halogen free

Suggested solder pad layout



Dimensions in inches and (millimeters)

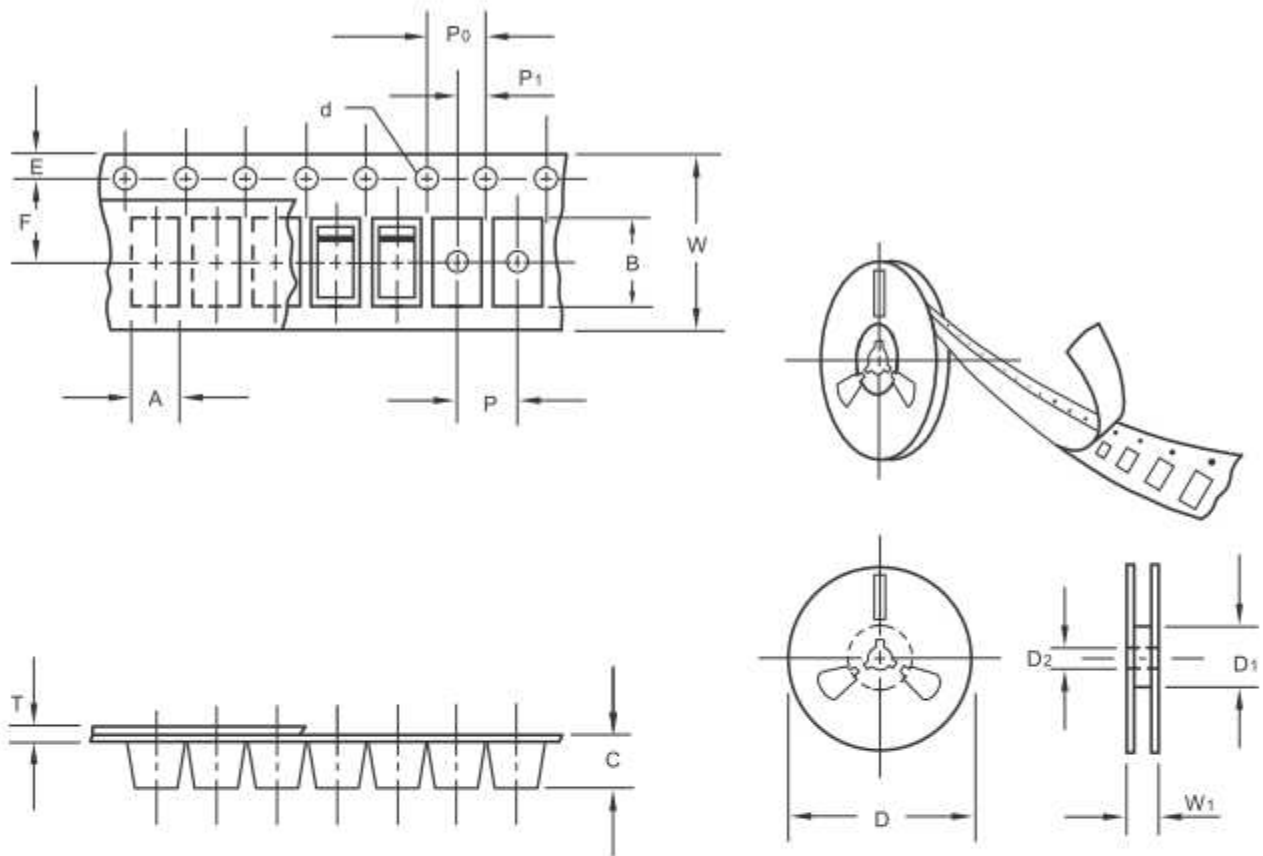
PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMA	7"	2,000	4.0	20,000	183*170*183	178	382*356*387	160,000	16.0
SMA	13"	7,500	4.0	15,000	337*337*37	330	350*330*360	120,000	14.2

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Packing information



unit:mm

Item	Symbol	Tolerance	SMA
Carrier width	A	0.1	2.80
Carrier length	B	0.1	5.00
Carrier depth	C	0.1	1.90
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D ₁	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	62.00
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	12.00
Reel width	W ₁	1.0	18.00

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.