Ordering number : ENA0734

SANYO Semiconductors

DATA SHEET

SBS817 — Low V_F Schottky Barrier Diode 15V, 2.0A Rectifier

Applications

- High frequency rectification (switching regulators, converters, choppers).

Features

- Small switching noise.
- Low forward voltage- (I_F=2.0A, V_F max=0.46V)
- Ultrasmall package permitting applied sets to be small and slim (Mounting height 0.75mm).

Specifications

Absolute Maximum Ratings at Ta=25°C (Value per element)

Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		15	V
Nonrepetitive Peak Reverse Surge Voltage	V_{RSM}		15	V
Average Output Current	I_O		2.0	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	20	A
Junction Temperature	Tj		-55 to +125	°C
Storage Temperature	Tstg		-55 to +125	°C

Marking : SB

*: The absolute maximum ratings and electrical characteristics refer to those between Terminal 1 and Terminal 7 (or 8), and between Terminal 3 andTerminal 5 (or 6).

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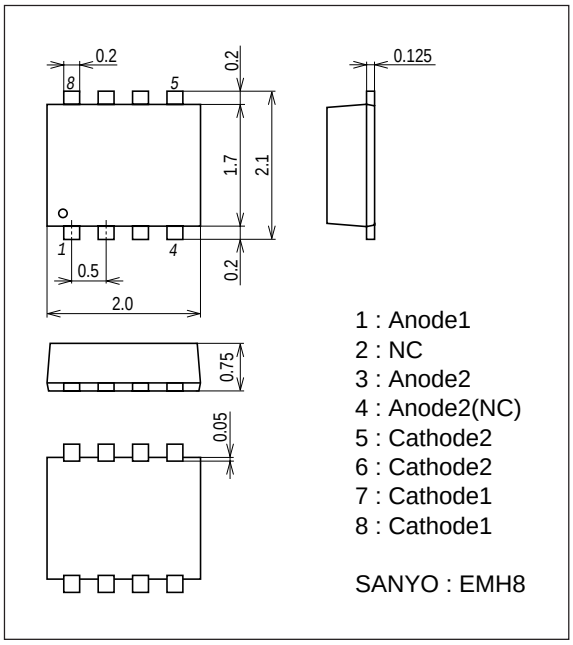
Electrical Characteristics at Ta=25°C (Value per element)

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	I_R=1mA	15			V
Forward Voltage	V_F1	I_F=1.0A		0.33	0.39	V
	V_F2	I_F=2.0A		0.39	0.46	V
Reverse Current	I_R	V_R=7.5V			300	μA
Interterminal Capacitance	C	V_R=10V, f=1MHz		35		pF
Reverse Recovery Time	t_{rr}	I_F=I_R=100mA, See specified Test Circuit.			10	ns
Thermal Resistance	Rth(j-a)	When mounted on ceramic substrate (900mm²X0.8mm)		65		°C / W

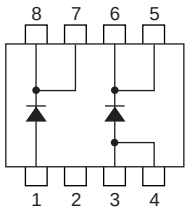
Package Dimensions

unit : mm (typ)

7045-004



Electrical Connection

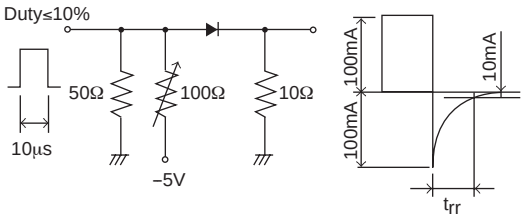


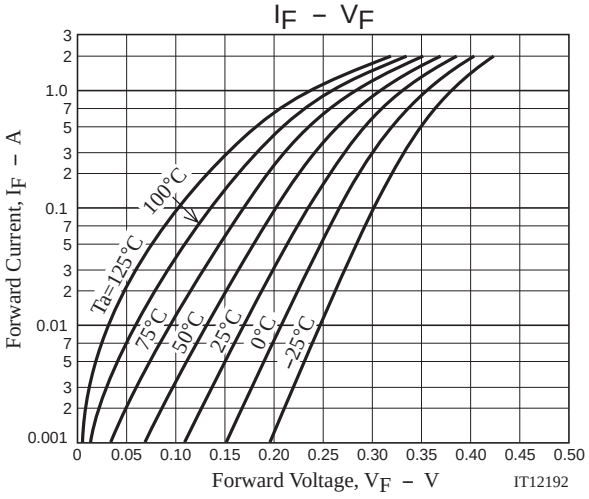
1 : Anode1
2 : NC
3 : Anode2
4 : Anode2(NC)
5 : Cathode2
6 : Cathode2
7 : Cathode1
8 : Cathode1

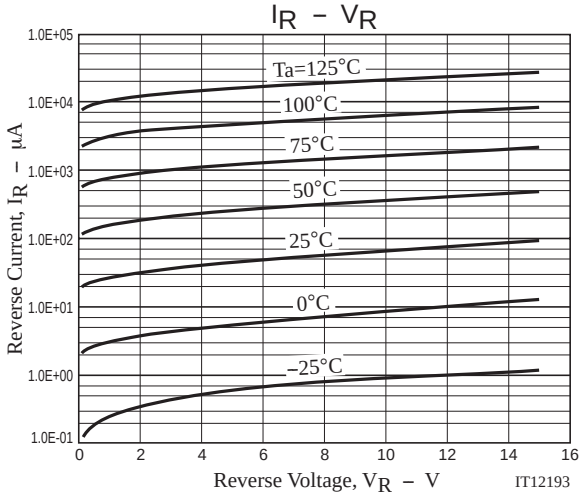
Top view

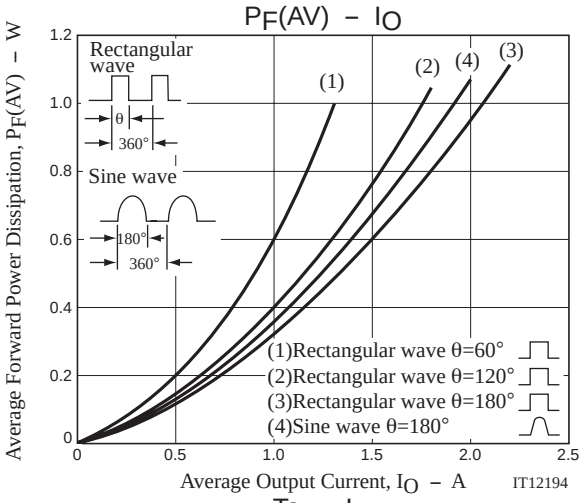
*: Terminal 4 is used for the purposes such as test. Although it is connected to Anode 2, please handle it as NC Terminal

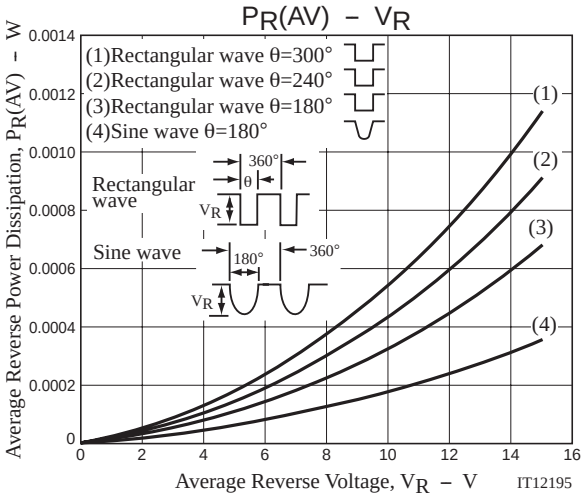
t_{rr} Test Circuit

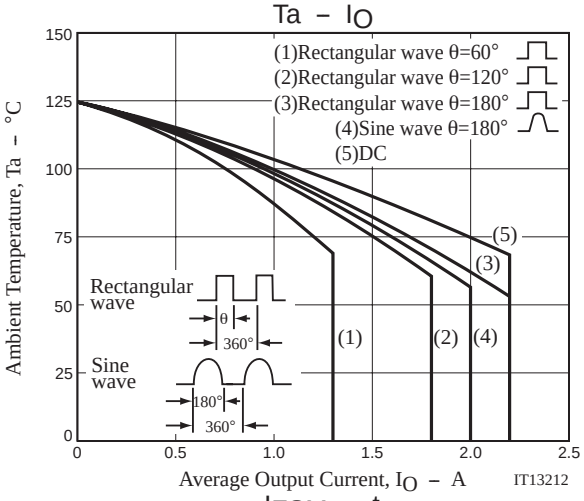


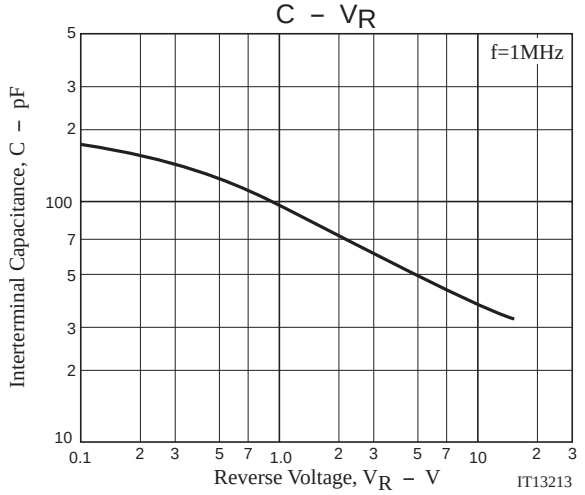


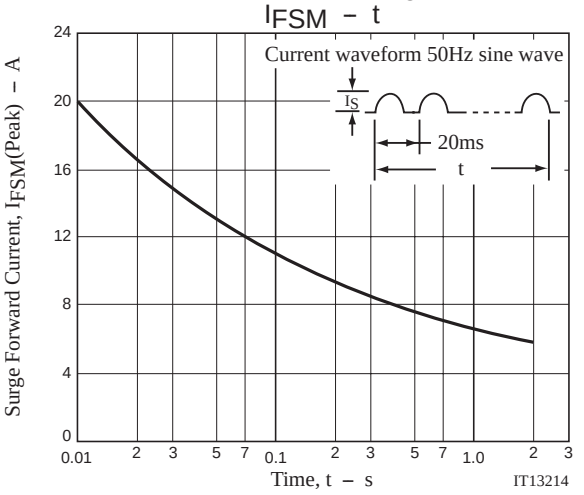



PF(AV) – IO
Average Forward Power Dissipation, PF(AV) – W
Average Output Current, IO – A
IT12194
Rectangular wave
θ
360°
Sine wave
180°
360°
(1)
(2)
(4)
(3)
(1)Rectangular wave θ=60°
(2)Rectangular wave θ=120°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°


PR(AV) – VR
Average Reverse Power Dissipation, PR(AV) – W
Average Reverse Voltage, VR – V
IT12195
(1)Rectangular wave θ=300°
(2)Rectangular wave θ=240°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°
Rectangular wave
360°
θ
VR
Sine wave
180°
360°
(1)
(2)
(3)
(4)


Ta – IO
Ambient Temperature, Ta – °C
Average Output Current, IO – A
IT13212
(1)Rectangular wave θ=60°
(2)Rectangular wave θ=120°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°
(5)DC
Rectangular wave
θ
360°
Sine wave
180°
360°
(1)
(2)
(4)
(3)
(5)


C – VR
Interterminal Capacitance, C – pF
Reverse Voltage, VR – V
IT13213
f=1MHz


IFSM – t
Surge Forward Current, IFSM(Peak) – A
Time, t – s
IT13214
Current waveform 50Hz sine wave
IS
20ms
t