Ordering number:EN2492

SB40-05J

Schottky Barrier Diode (Twin Type · Cathode Common)

50V, 4A Rectifier

Applications

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

Features

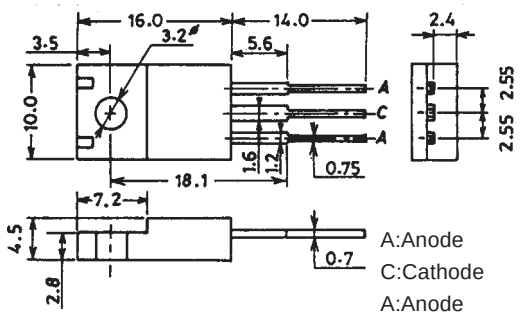
· Low forward voltage (V_F max=0.55V).
· Fast reverse recovery time (trr max=40ns).
· Low switching noise.
· Low leakage current and high reliability due to highly reliable planar structure.
· Micaless package facilitating easy mounting.

Package Dimensions

unit:mm

1178

[SB40-05J]



SANYO:TO-220ML

Specifications

Absolute Maximum Ratings at Ta = 25˚C

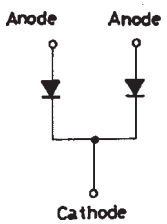
Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		50	V
Nonrepetitive Peak Reverse Surge Voltage	V_{RSM}		55	V
Average Output Current	I_O	50Hz, resistive load, Tc=110˚C	4	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	80	A
Junction Temperature	Tj		–55 to +125	˚C
Storage Temperature	Tstg		–55 to +125	˚C

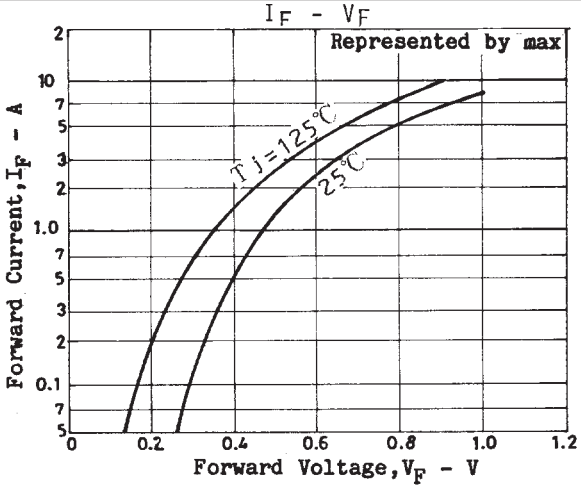
Electrical Characteristics

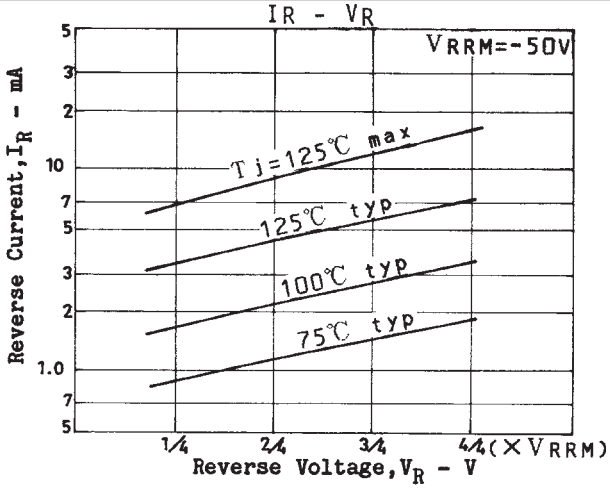
Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	I_R=1mA, Tj=25˚C, *	50			V
Forward Voltage	V_F	I_F=2A, Tj=25˚C, *			0.55	V
Reverse Current	I_R	V_R=25V, Tj=25˚C, *			0.2	mA
Reverse Recovery Time	trr	I_F=2A, Tj=25˚C, *, –dI_F/dt=10A/μs			40	ns
Thermal Resistance	Rthj-c	Junction-Case:Smoothed DC			4.5	˚C/W

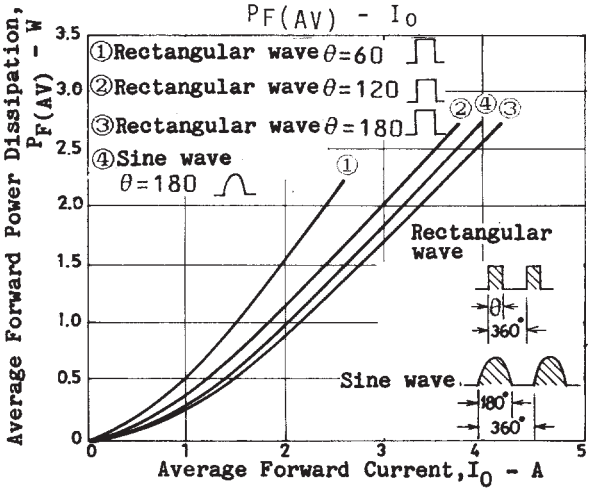
Note*:Value per element

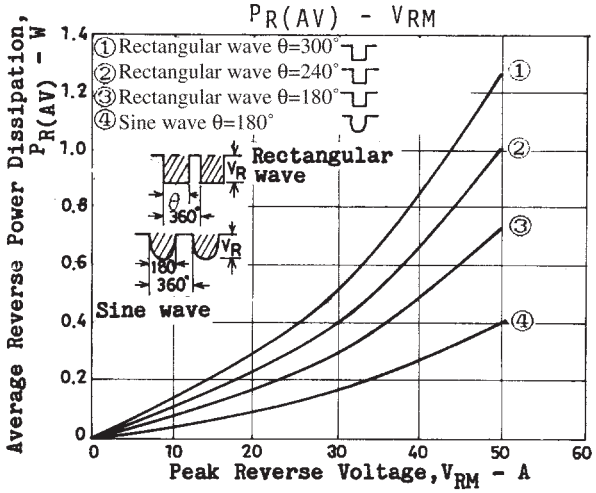
Electrical Connection

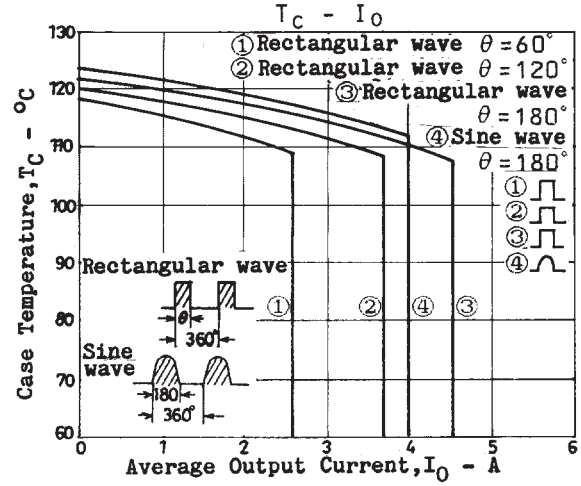


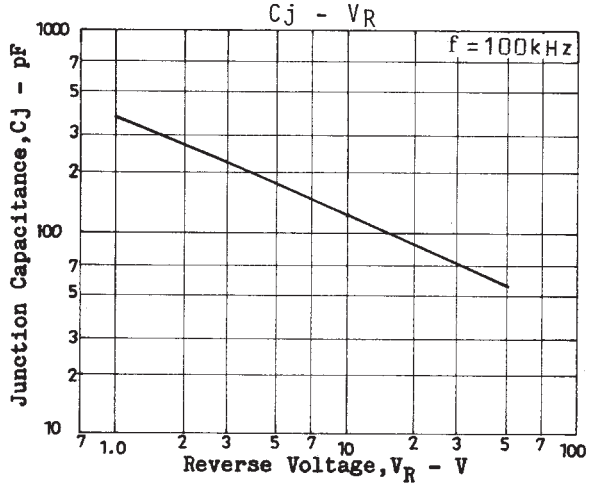

IF - VF
Represented by max
Tj=125℃
25℃
Forward Current,IF - A
Forward Voltage,VF - V

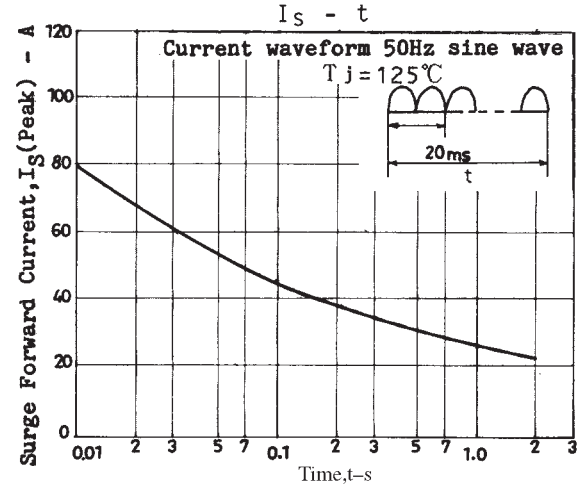

IR - VR
VRRM=-50V
Tj=125℃ max
125℃ typ
100℃ typ
75℃ typ
Reverse Current,IR - mA
Reverse Voltage,VR - V
(×VRRM)

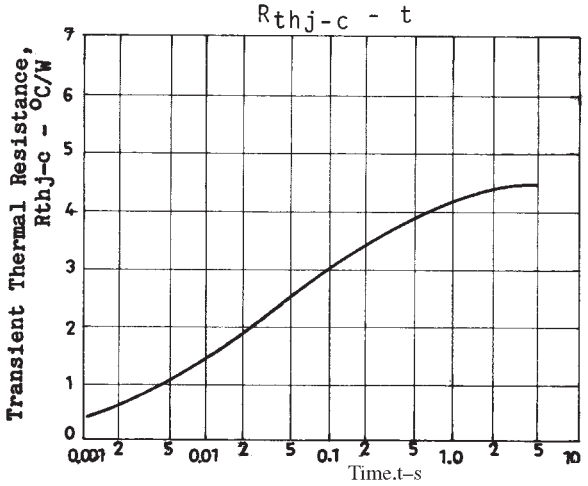

PF(AV) - Io
①Rectangular wave θ=60
②Rectangular wave θ=120
③Rectangular wave θ=180
④Sine wave θ=180
Rectangular wave
Sine wave
Average Forward Power Dissipation, PF(AV) - W
Average Forward Current,Io - A


PR(AV) - VRM
①Rectangular wave θ=300°
②Rectangular wave θ=240°
③Rectangular wave θ=180°
④Sine wave θ=180°
Rectangular wave
Sine wave
Average Reverse Power Dissipation, PR(AV) - W
Peak Reverse Voltage,VRM - A


Tc - Io
①Rectangular wave θ=60°
②Rectangular wave θ=120°
③Rectangular wave θ=180°
④Sine wave θ=180°
Rectangular wave
Sine wave
Case Temperature,Tc - °C
Average Output Current,Io - A


Cj - VR
f=100kHz
Junction Capacitance,Cj - pF
Reverse Voltage,VR - V


Is - t
Current waveform 50Hz sine wave
Tj=125℃
20ms
Surge Forward Current,Is(Peak) - A
Time,t-s


Rthj-c - t
Transient Thermal Resistance, Rthj-c - °C/W
Time,t-s

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