

DF40SC4

Schottky Barrier Diodes

40V, 40A

Feature

- SMD
- High Recovery Speed
- Low V_F
- Pb free terminal
- RoHS:Yes

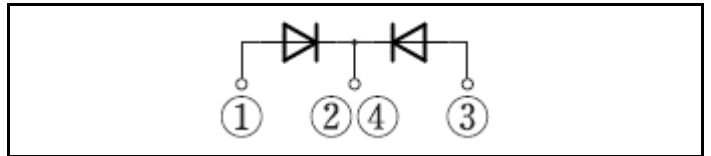
OUTLINE

Package (House Name): STO-220

Package (JEITA Code): SC-83 similar



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : $T_c=25^\circ\text{C}$)

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	T_{stg}		-55 to 150	$^\circ\text{C}$
Junction temperature	T_j		-55 to 150	$^\circ\text{C}$
Repetitive peak reverse voltage	V_{RRM}		40	V
Repetitive peak surge reverse voltage	V_{RRSM}	Pulse width 0.5ms, duty=1/40	45	V
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, Rating for each diode $I_F(AV)/2$, With heatsink, $T_c=106^\circ\text{C}$	40	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^\circ\text{C}$	350	A
Repetitive peak surge reverse power	P_{RRSM}	Pulse width 10 μs , $T_j=25^\circ\text{C}$, per diode	1000	W

* :See the original Specifications

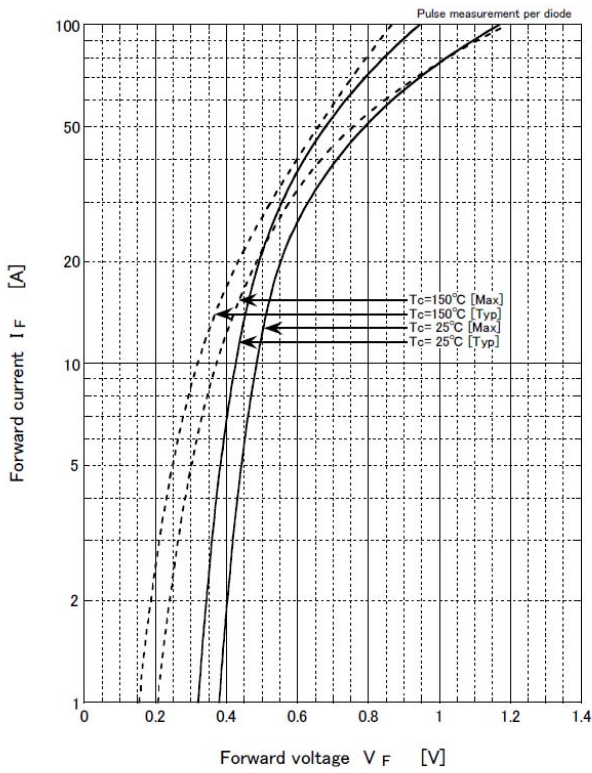
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V _F	I _F =20A, Pulse measurement, per diode			0.55	V
Reverse current	I _R	V _R =40V, Pulse measurement, per diode			14	mA
Total capacitance	C _t	f=1MHz, V _R =10V, per diode		860		pF
Thermal resistance	R _{th(j-c)}	Junction to case, With heatsink			1.5	°C/W

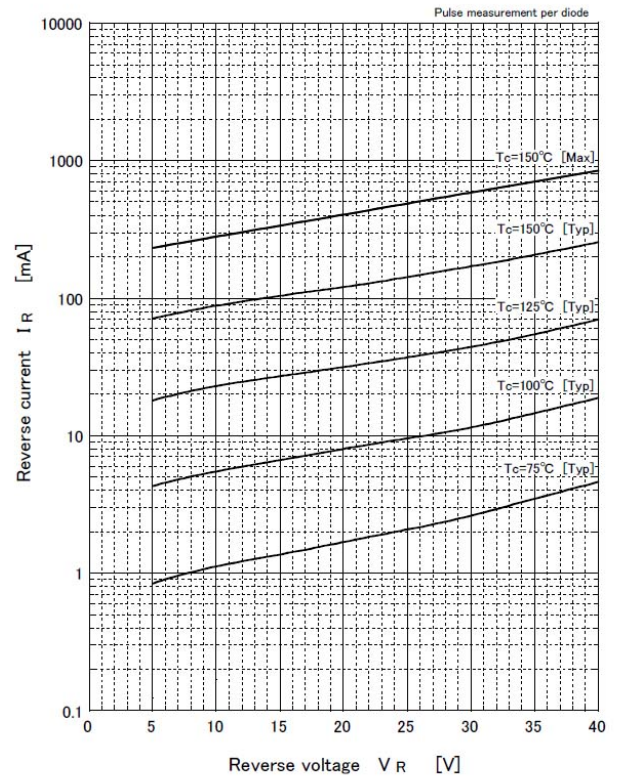
* : See the original Specifications

CHARACTERISTIC DIAGRAMS

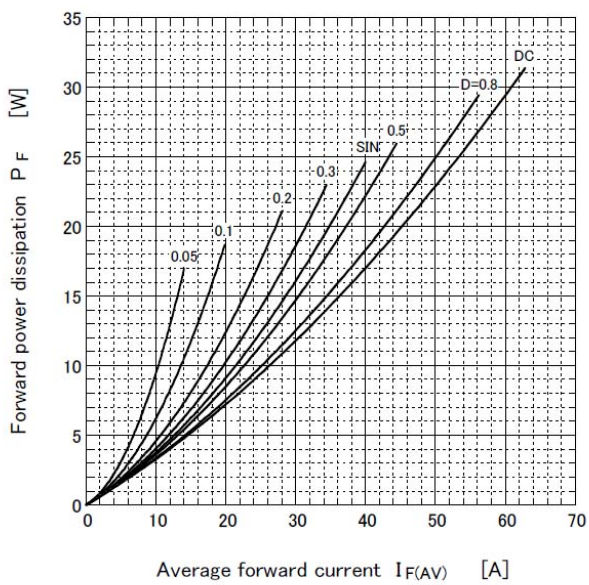
Forward voltage



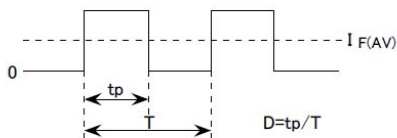
Reverse current



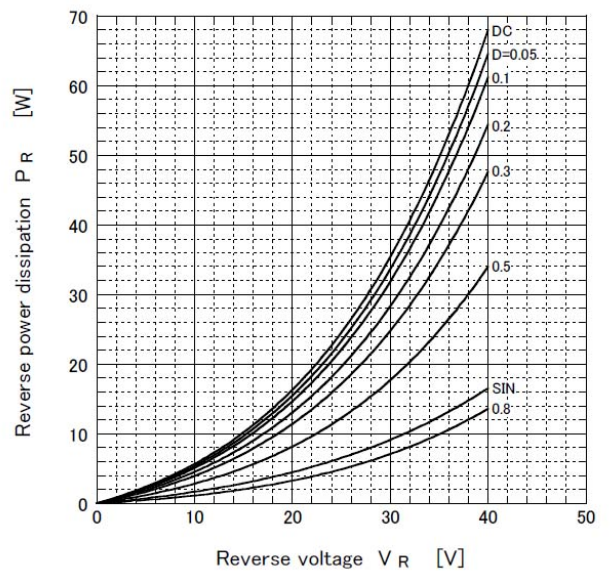
Forward power dissipation



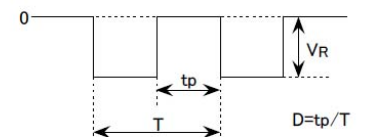
● $T_J=150^\circ\text{C}$



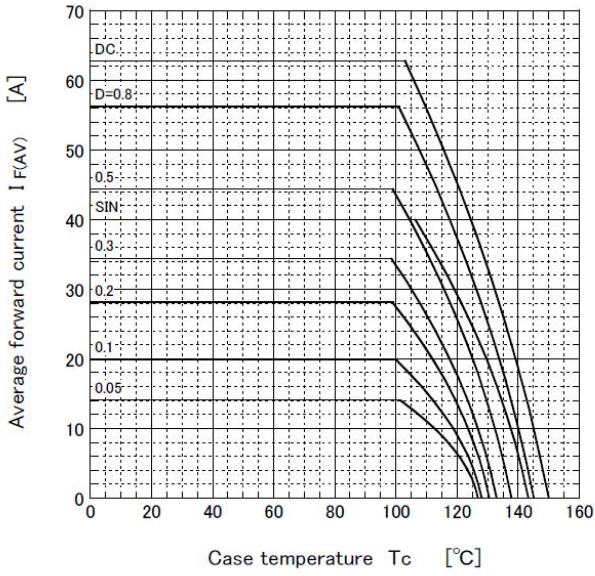
Reverse power dissipation



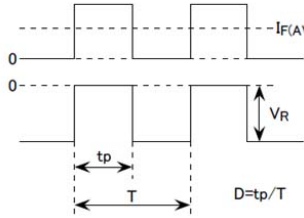
● $T_J=150^\circ\text{C}$



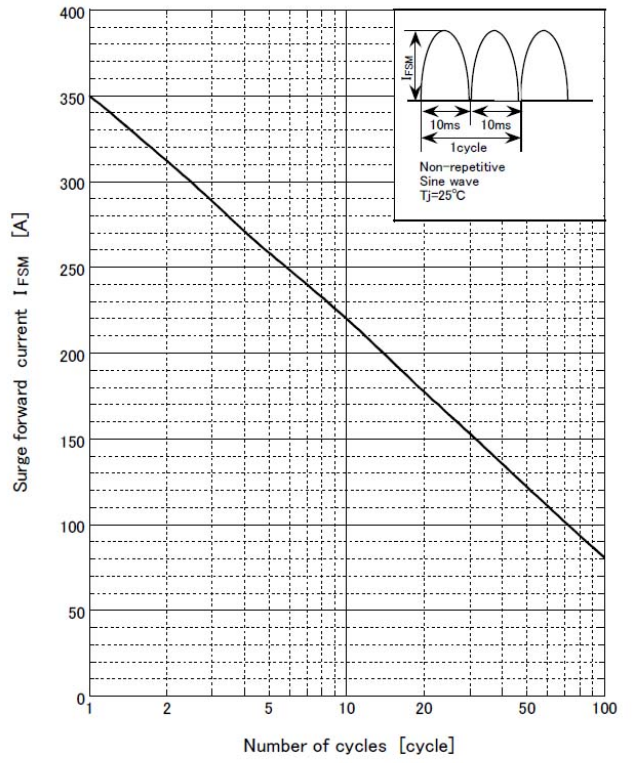
Derating curve



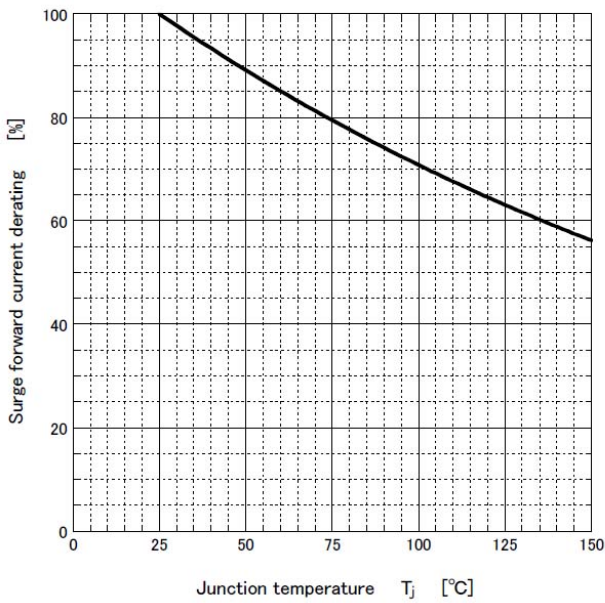
● $V_R = 20V$
R-load
With heatsink



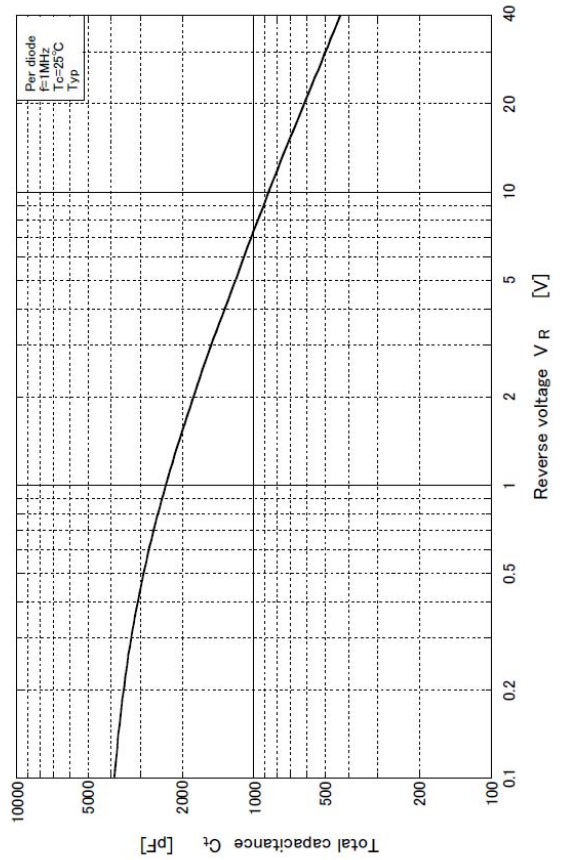
Surge forward current capability



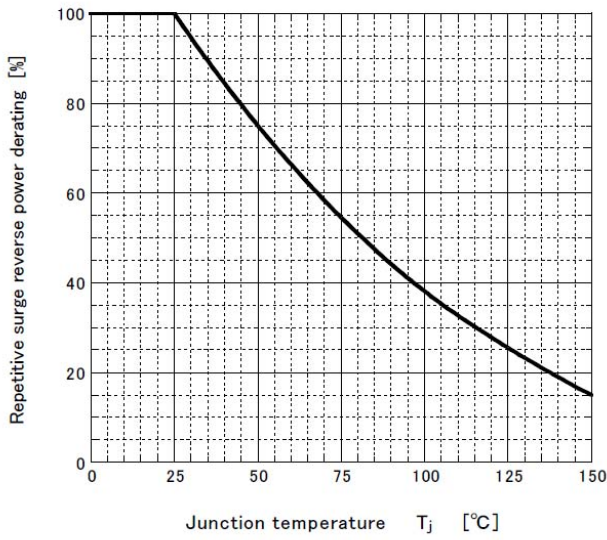
Surge forward current derating vs Junction temperature



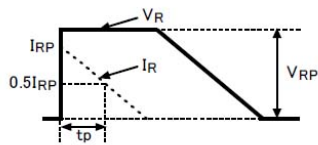
Total capacitance



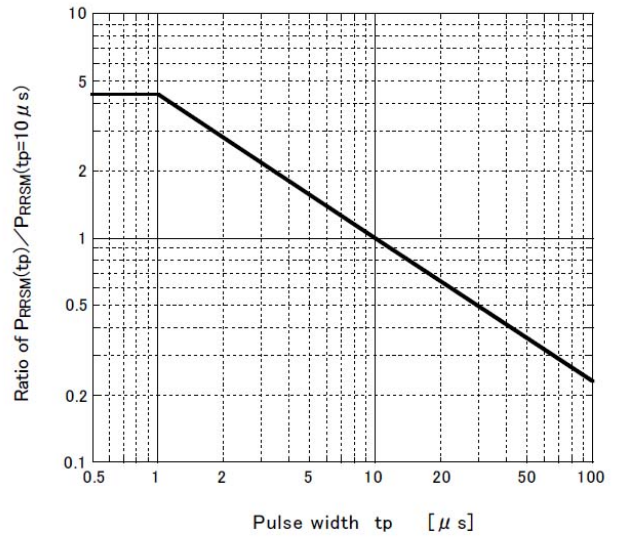
Repetitive surge reverse power derating vs Junction temperature



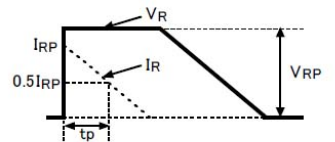
● $P_{RRSM} = I_{RP} \times V_{RP}$



Repetitive surge reverse power capability

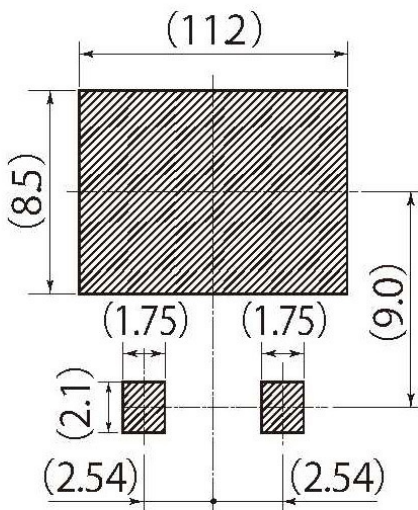
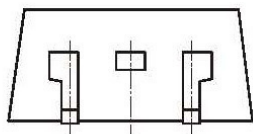
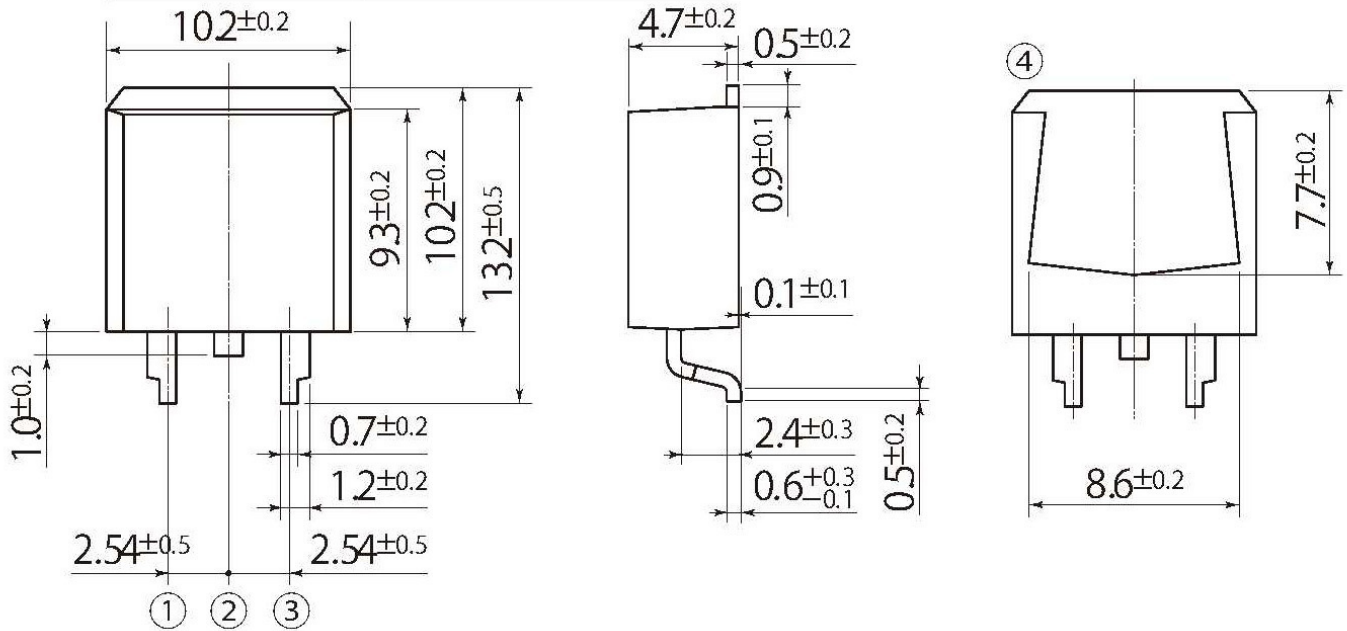


● $P_{RRSM} = I_{RP} \times V_{RP}$



H1

JEDEC Code	-
JEITA Code	SC-83 similar
House Name	STO-220



Referential Soldering Pad

• Optimize soldering pad to the board design and soldering condition.

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