

# D20FR4ST

## Schottky Barrier Diodes

40V, 20A

### Feature

- Permit high current with a small package
- $T_j=175^{\circ}\text{C}$
- Low  $I_R$
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

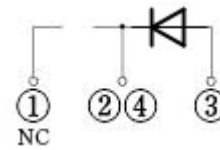
### OUTLINE

Package (House Name): FR

Package (JEDEC Code): TO-252AA 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 175	$^{\circ}\text{C}$
Junction temperature	$T_j$		-55 to 175	$^{\circ}\text{C}$
Repetitive peak reverse voltage	$V_{RRM}$		40	V
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, With heatsink, $T_c=149^{\circ}\text{C}$	20	A
Surge forward current	$I_{FSM}$	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^{\circ}\text{C}$	400	A
Surge forward current	$I_{FSM1}$	$t_p=1\text{ms}$ , Sine wave, Non-repetitive, Peak value, $T_j=25^{\circ}\text{C}$	890	A

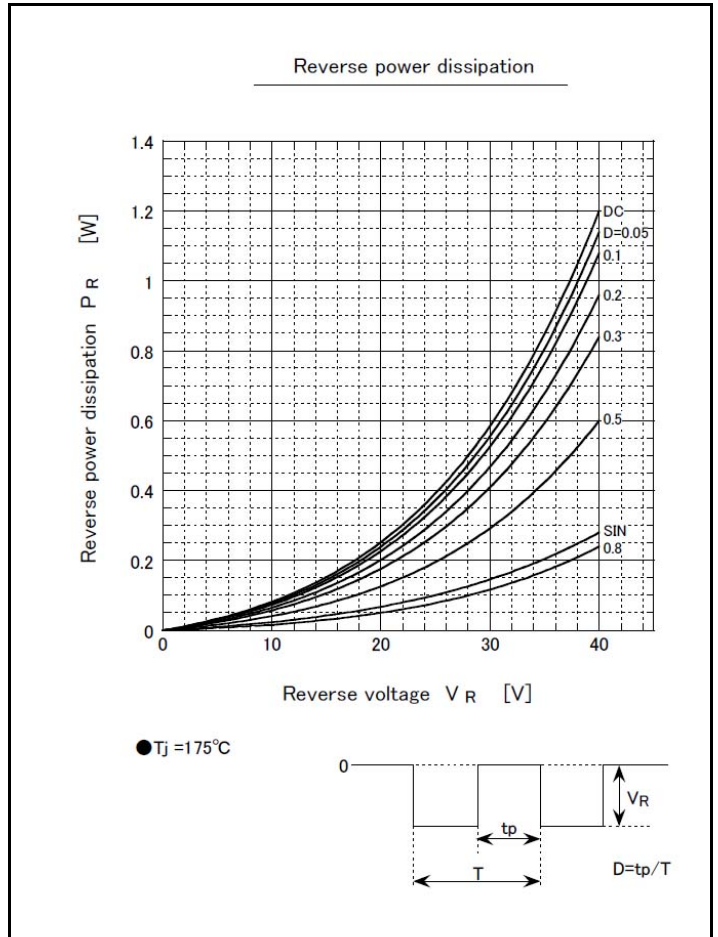
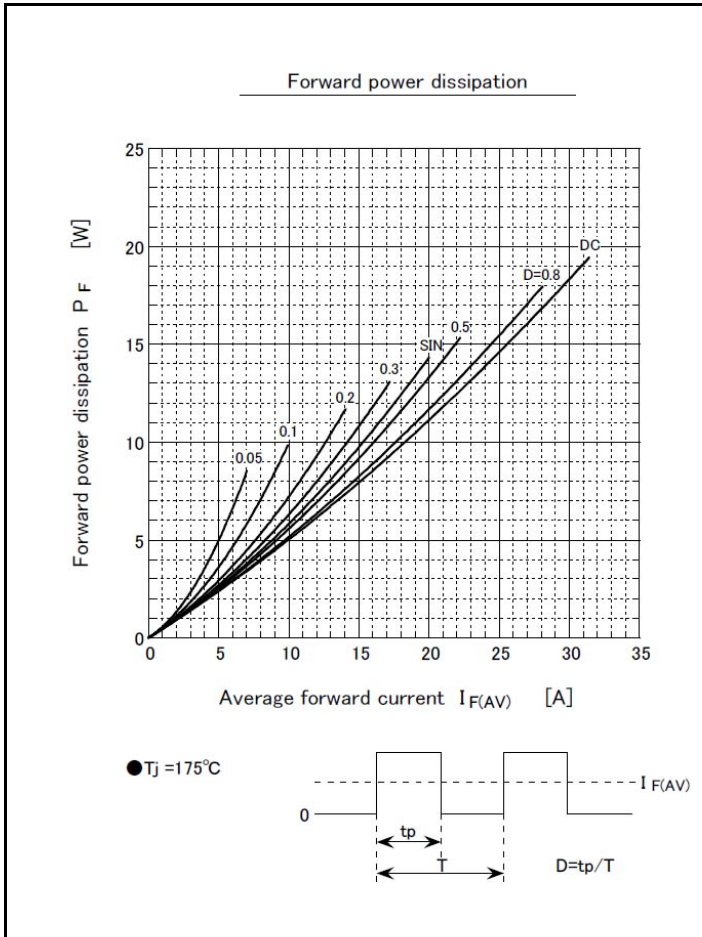
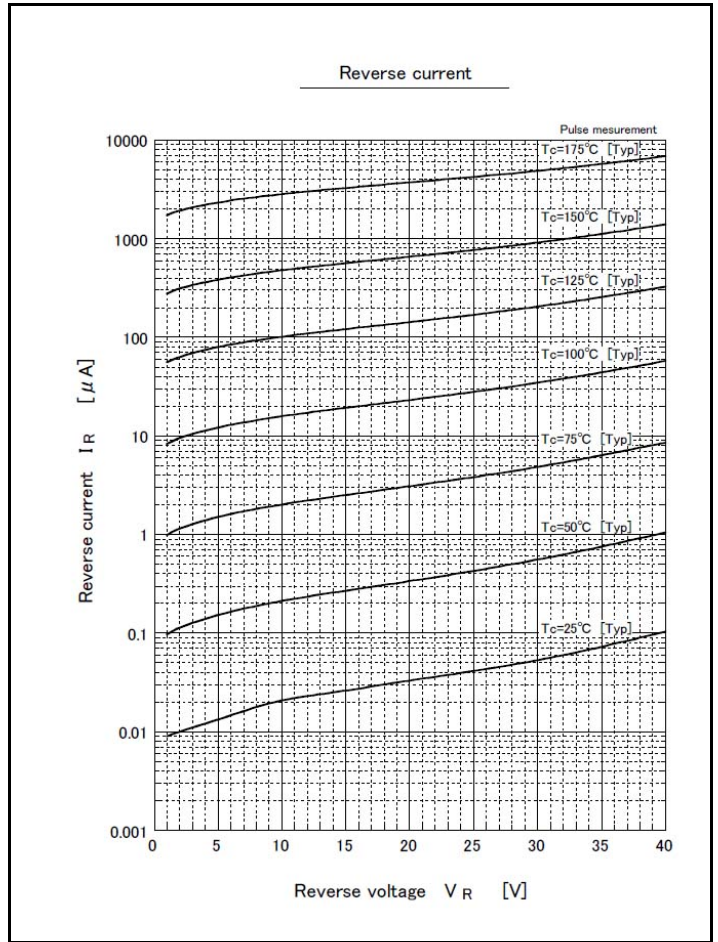
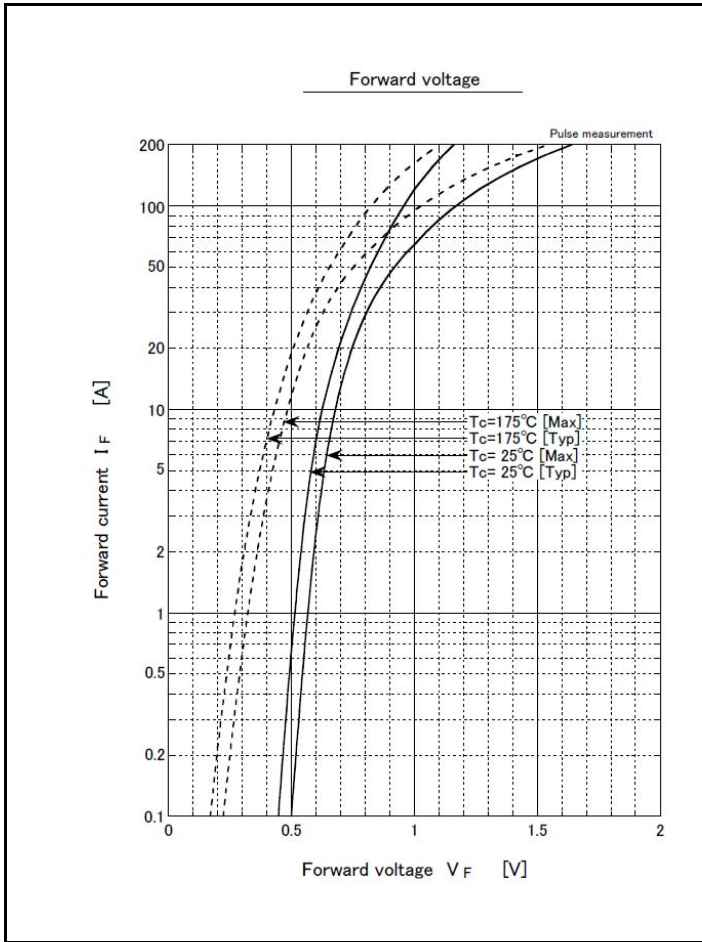
※ : See the original Specifications

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

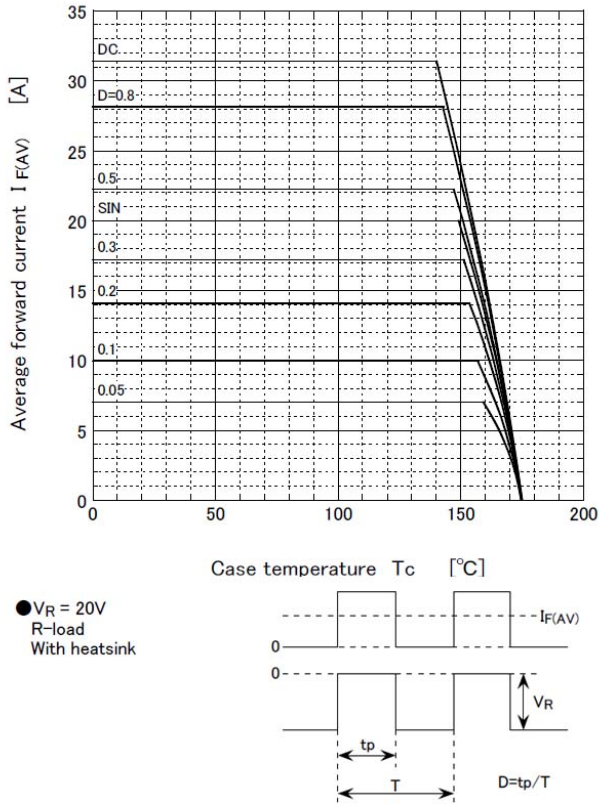
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =20A, Pulse measurement			0.74	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> =40V, Pulse measurement			0.06	mA
Total capacitance	C <sub>t</sub>	f=1MHz, V <sub>R</sub> =10V		600		pF
Thermal resistance	R <sub>th(j-c)</sub>	Junction to case, With heatsink			1.8	°C/W

\* : See the original Specifications

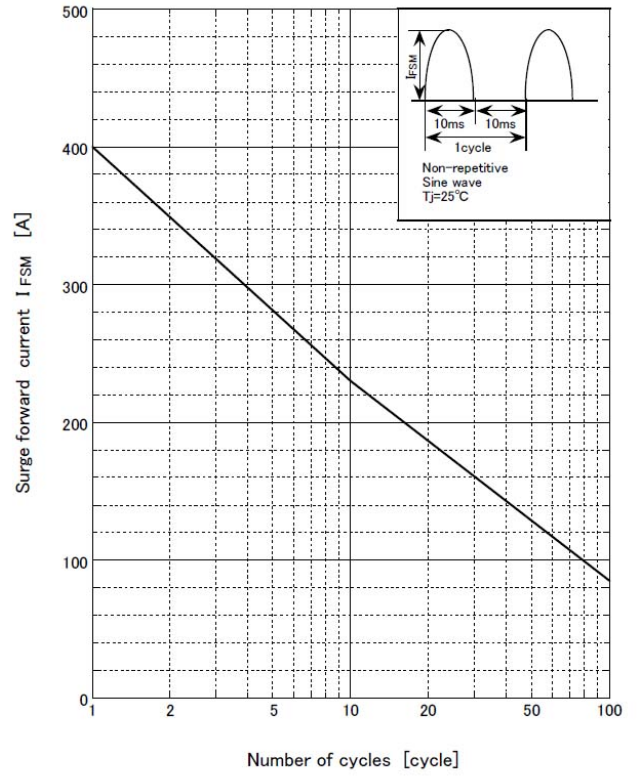
# CHARACTERISTIC DIAGRAMS



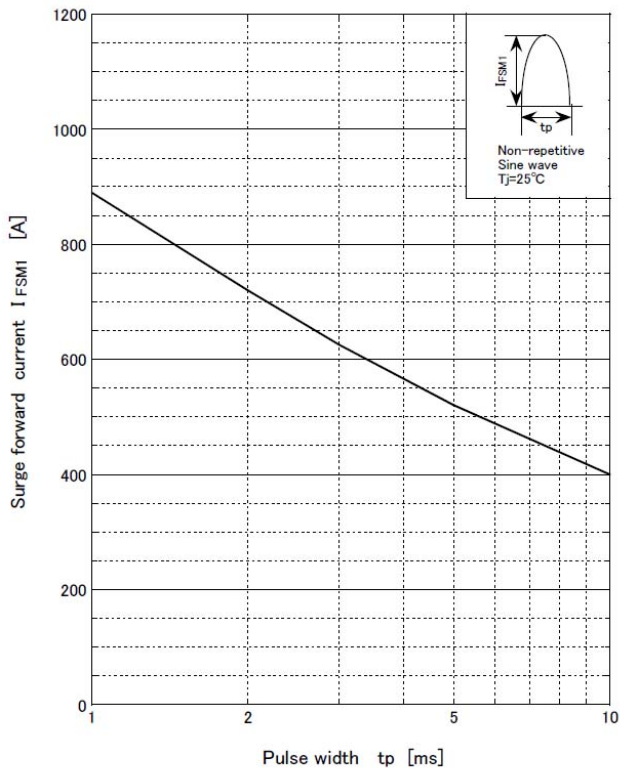
Derating curve



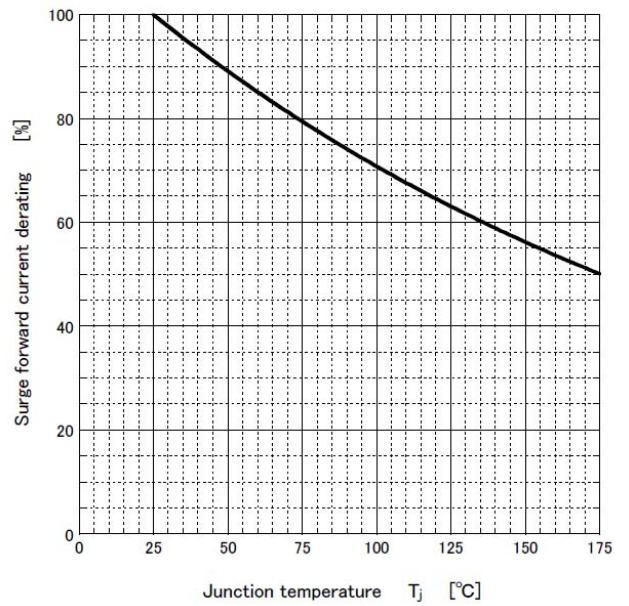
Surge forward current capability



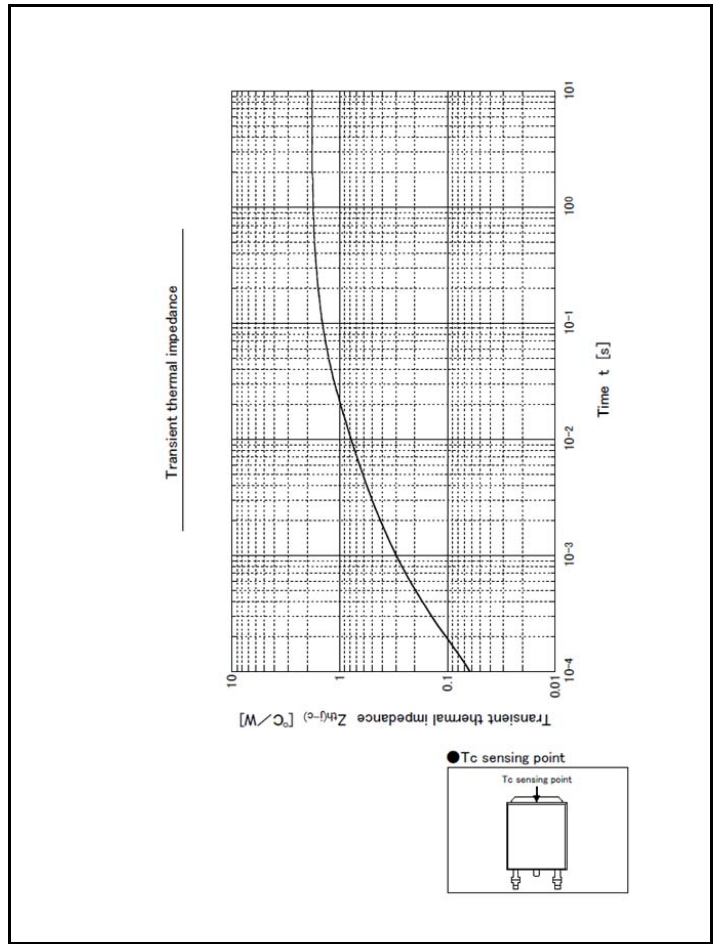
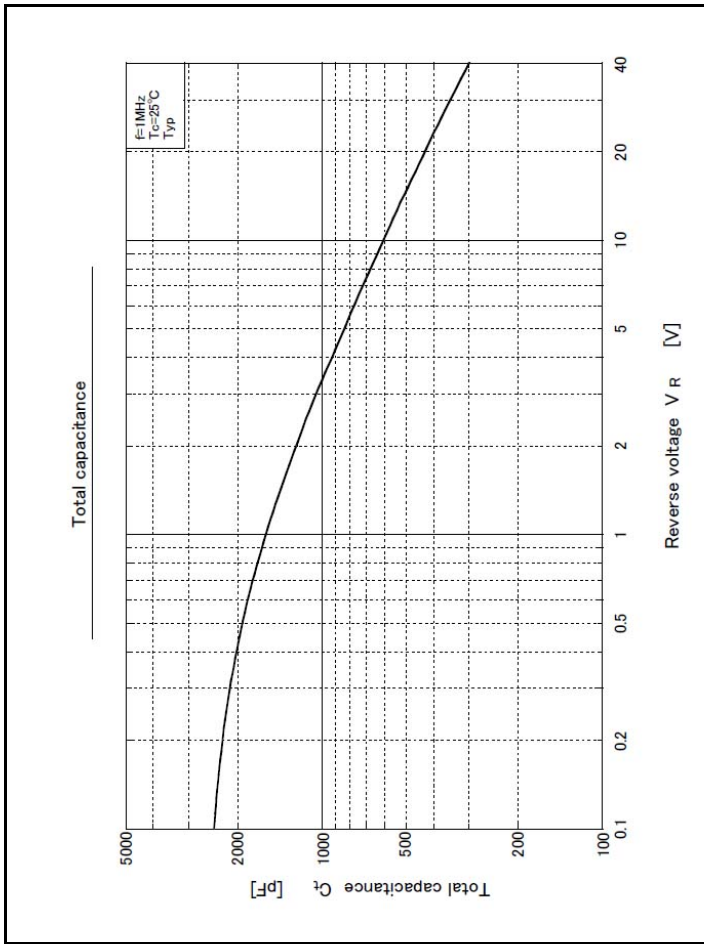
Surge forward current capability



Surge forward current derating vs Junction temperature

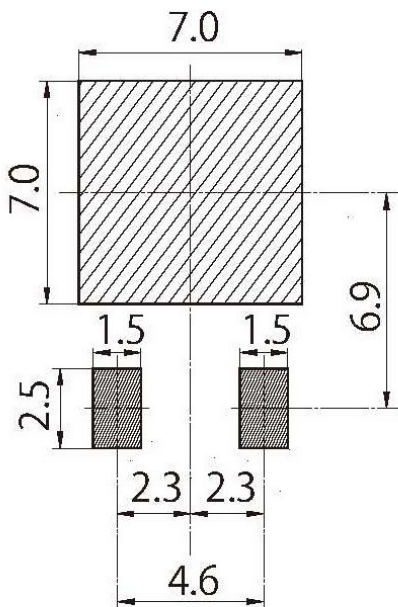
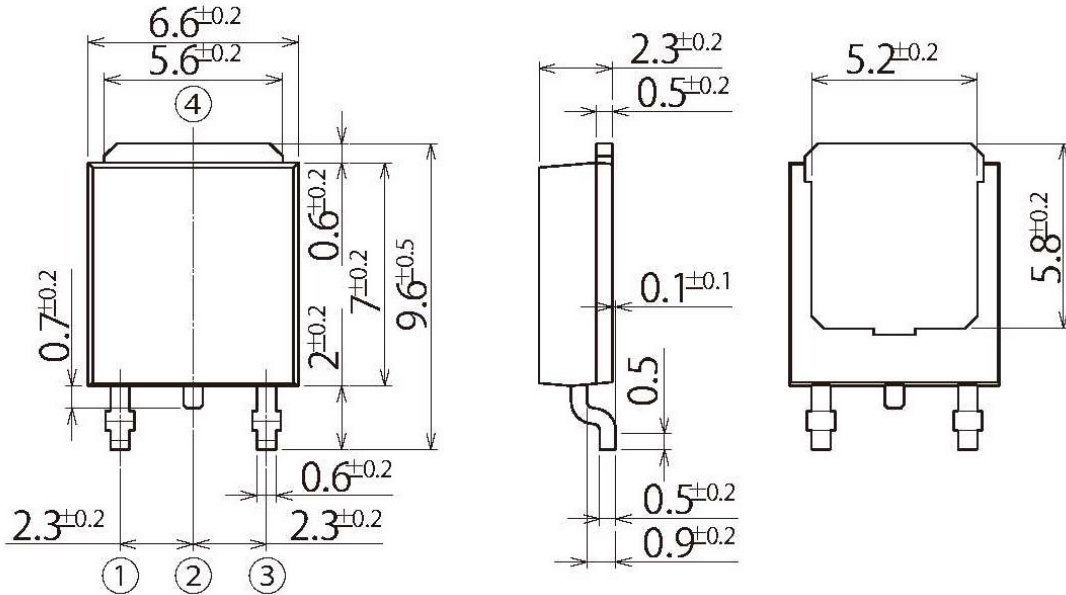






G5

JEDEC Code	TO-252AA similar
JEITA Code	—
House Name	FR



Referential Soldering Pad

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

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