ShinDengen

D8FD60LUS

Fast Recovery Diodes
600V, 8A

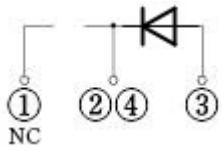
Feature

- SMD
- High Voltage
- Low Noise
- Available for automotive use
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FD
Package (JEITA Code): SC-83 similar

Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : Tc=25℃)

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 175	℃
Junction temperature	Tj		175	℃
Repetitive peak reverse voltage	V_{RRM}		600	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Tc=120℃	8	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle, Peak value, Tj=25℃	60	A
Surge forward current	I_{FSM1}	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25℃	120	A

※ :See the original Specifications

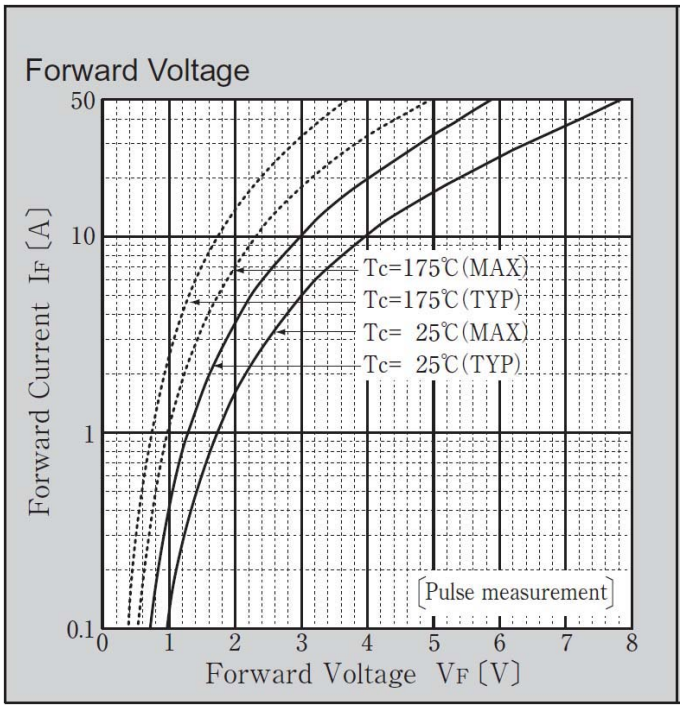
Electrical Characteristics (unless otherwise specified : Tc=25℃)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=8A, Pulse measurement			3.6	V
Reverse current	I_R	VR=600V, Pulse measurement			50	μA
Reverse recovery time	trr	IF=0.5A, IR=1.0A, 0.1IR			25	ns
Total capacitance	Ct	f=1MHz, VR=10V		24		pF
Thermal resistance	Rth(j-c)	Junction to case			2.3	℃/W

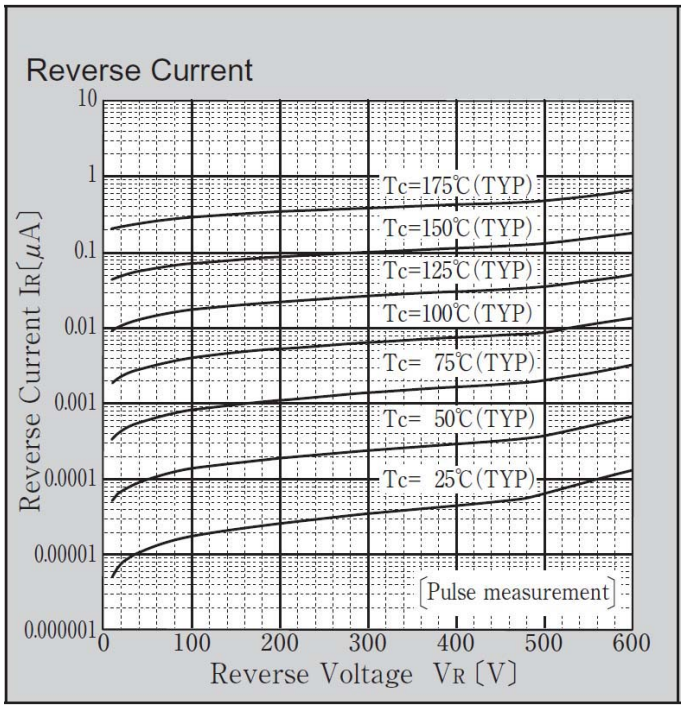
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

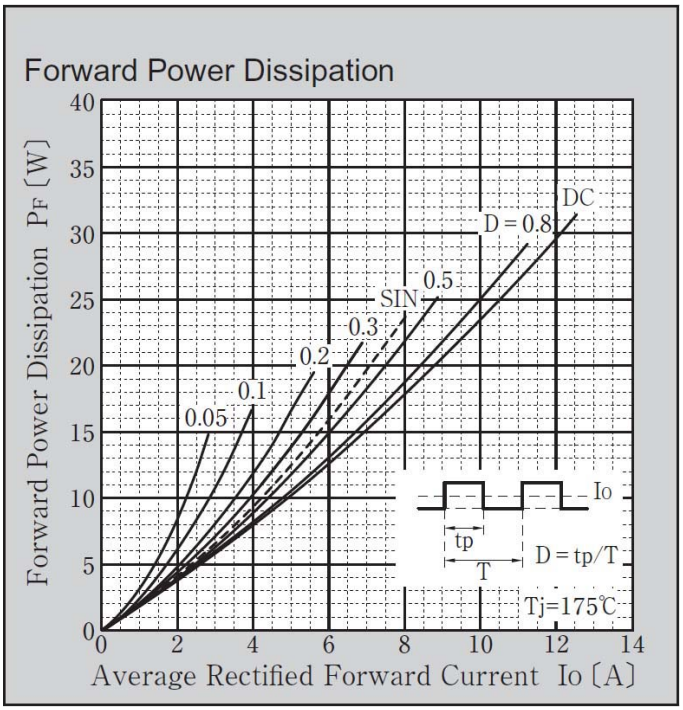
Forward Voltage



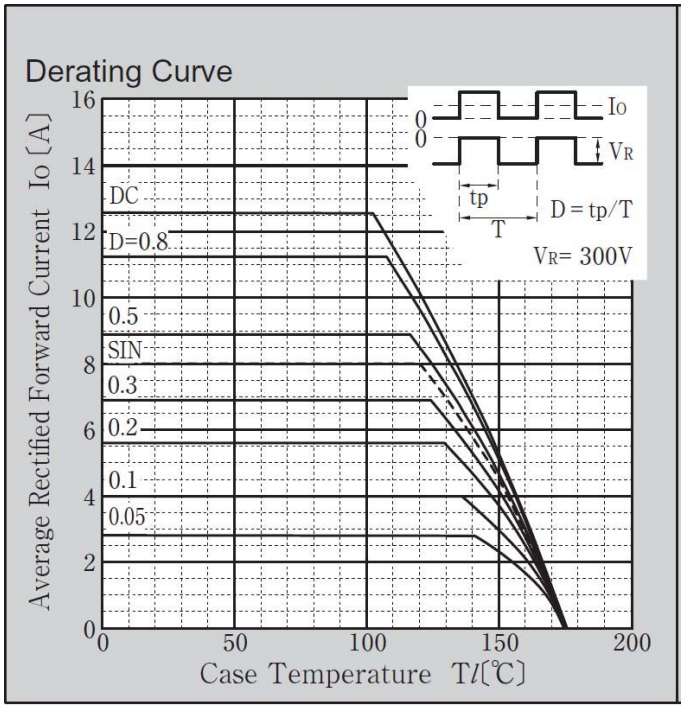
Reverse Current

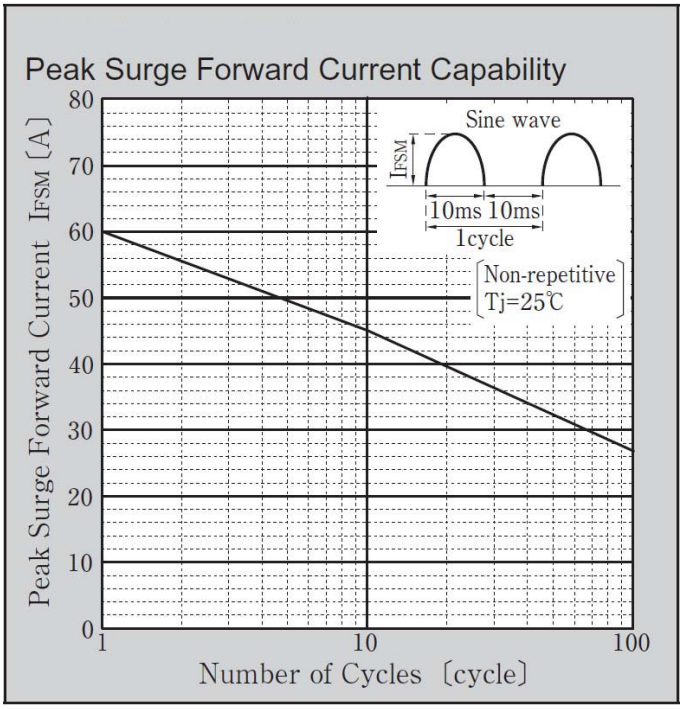


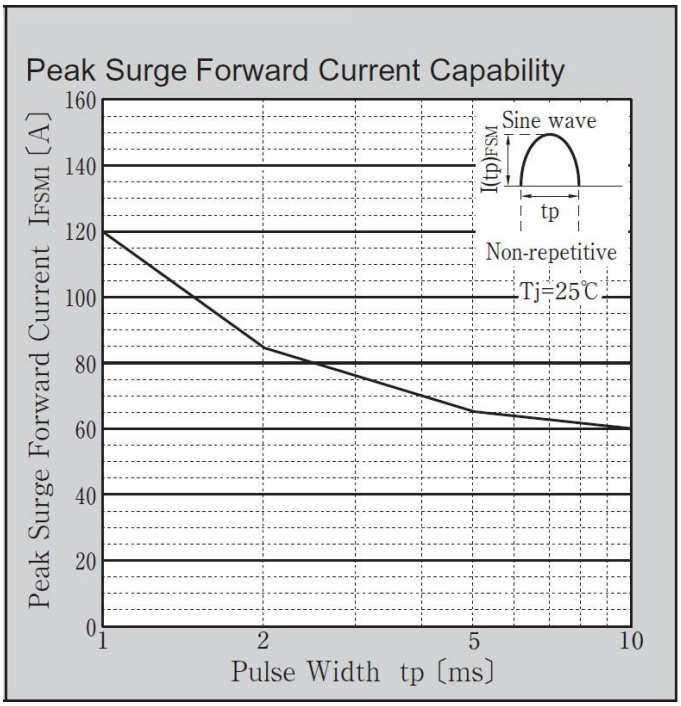
Forward Power Dissipation

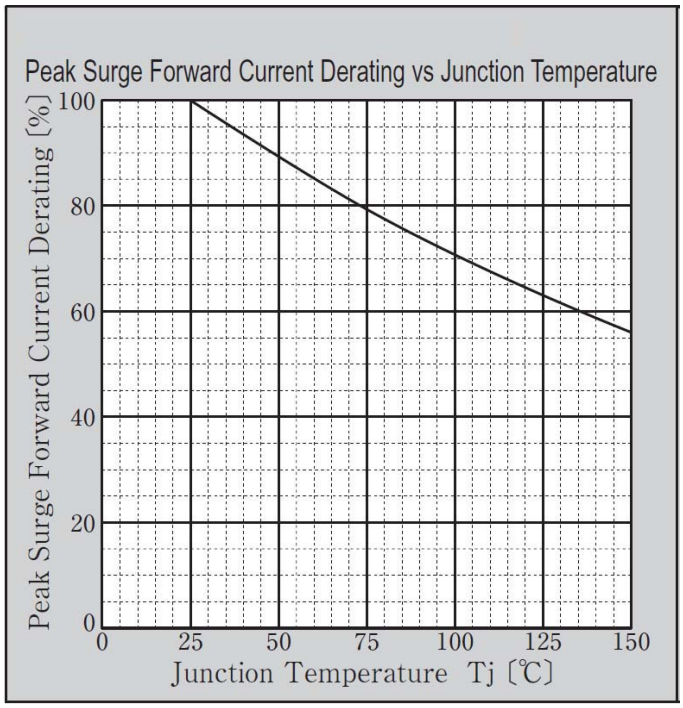


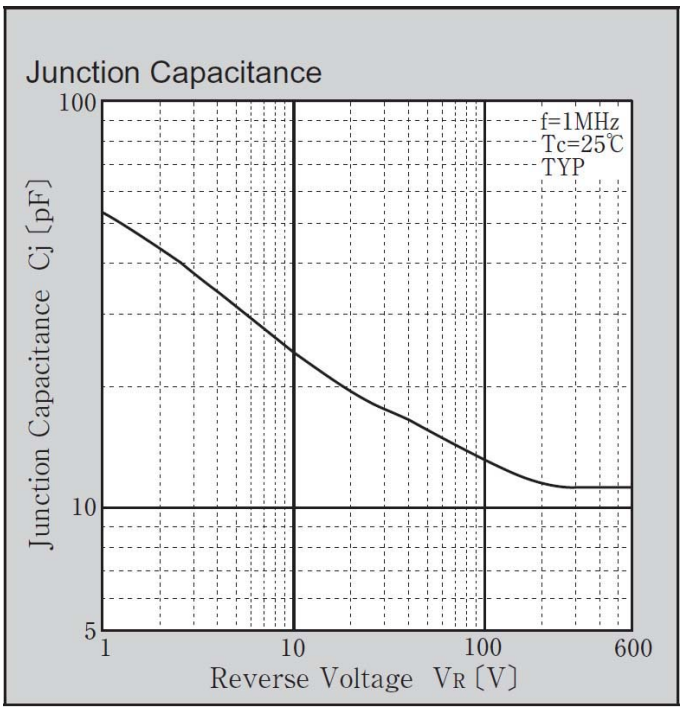
Derating Curve

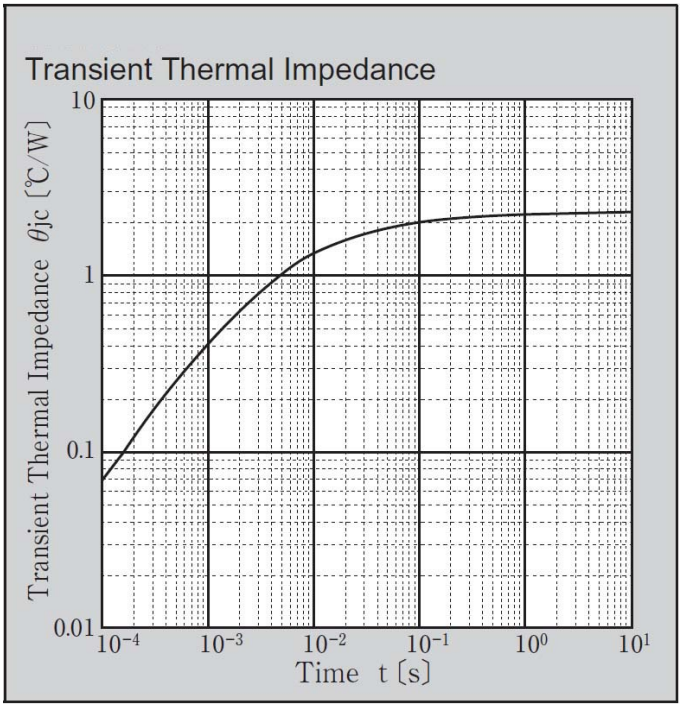



Peak Surge Forward Current Capability
Peak Surge Forward Current IFSM〔A〕
80
70
60
50
40
30
20
10
0
1
10
100
Number of Cycles〔cycle〕
Sine wave
IFSM
10ms 10ms
1cycle
Non-repetitive
Tj=25℃


Peak Surge Forward Current Capability
Peak Surge Forward Current IFSM1〔A〕
160
140
120
100
80
60
40
20
0
1
2
5
10
Pulse Width tp〔ms〕
Sine wave
I(tp)FSM
tp
Non-repetitive
Tj=25℃


Peak Surge Forward Current Derating vs Junction Temperature
Peak Surge Forward Current Derating〔%〕
100
80
60
40
20
0
0
25
50
75
100
125
150
Junction Temperature Tj〔℃〕


Junction Capacitance
Junction Capacitance Cj〔pF〕
100
10
5
1
10
100
600
Reverse Voltage VR〔V〕
f=1MHz
Tc=25℃
TYP


Transient Thermal Impedance
Transient Thermal Impedance θjc〔℃/W〕
10
1
0.1
0.01
10⁻⁴
10⁻³
10⁻²
10⁻¹
10⁰
10¹
Time t〔s〕

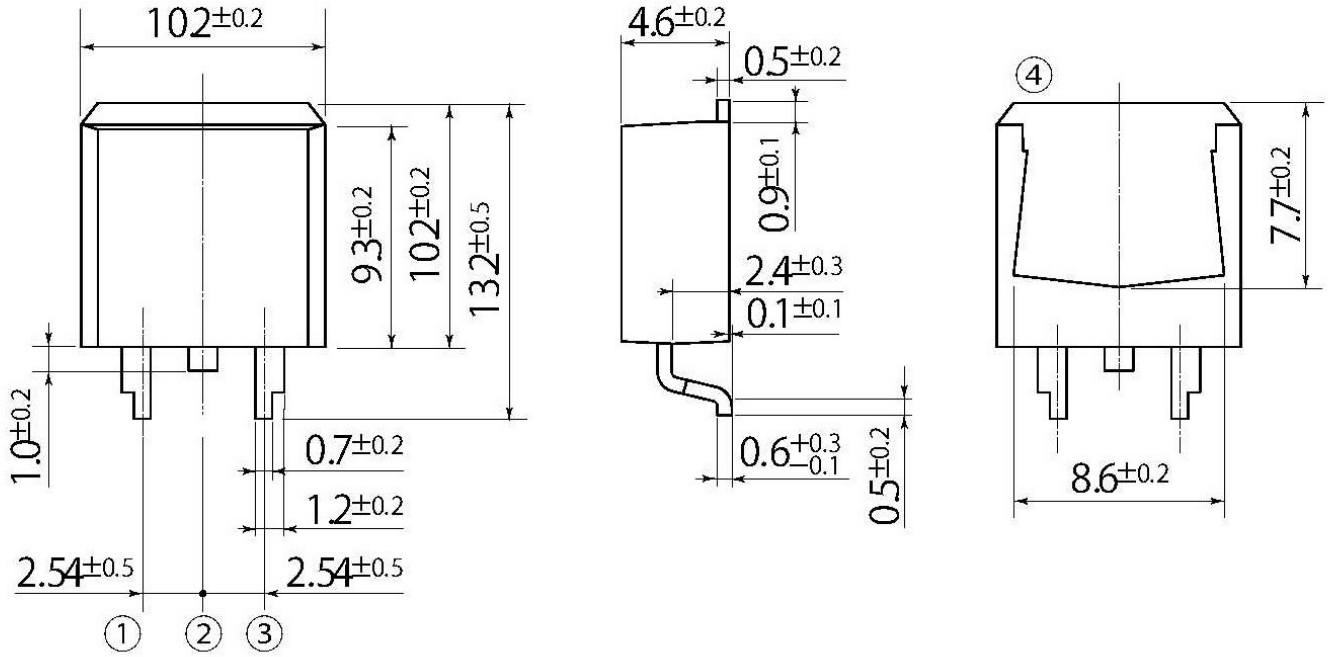
Outline Dimensions

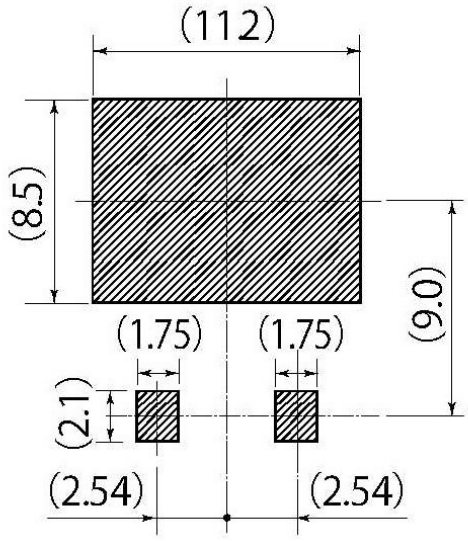
unit:mm

scale: 3/1

H2

JEDEC Code	–
JEITA Code	SC-83 similar
House Name	FD





Referential Soldering Pad

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

Notes

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