

Features

- FRED wafer construction
- Low forward drop voltage, low power loss
- High surge current capability
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21

Mechanical Data

- Case: epoxy, molded
- Finish: all external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C max. for 10 sec

Applications

- SMPS
- Adapter
- Server power

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

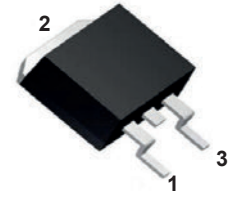
Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	400	V
Working Peak Reverse Voltage	V _{RWM}	400	V
Maximum DC Blocking Voltage	V _{DC}	400	V
Maximum Average Forward Rectified Current	I _{F(AV)}	15	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	150	A
Voltage Rate of Change (Rated V _R)	dv/dt	10000	V/μs
Thermal Resistance, Junction to Case	R _{θJC}	2.0	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	62.5	°C/W
Operating Junction Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

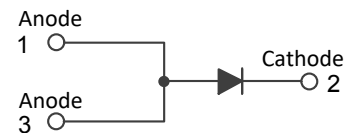
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward Drop Voltage ¹	V _F	I _F =15A, T _J =25°C	1.16	1.40	V
		I _F =15A, T _J =125°C	-	1.20	
Reverse Leakage Current @V _R ²	I _R	T _J =25°C	-	10	μA
		T _J =100°C	-	500	
Reverse Recovery Time	t _{rr}	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	-	50	nS

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%.
2. Pulse test with PW=30ms.



TO-263 (D²PAK)



Schematic Diagram

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

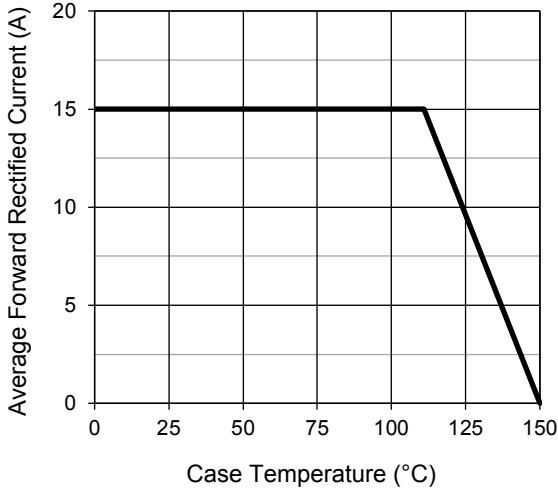


Figure 1. Forward Current Derating Curve

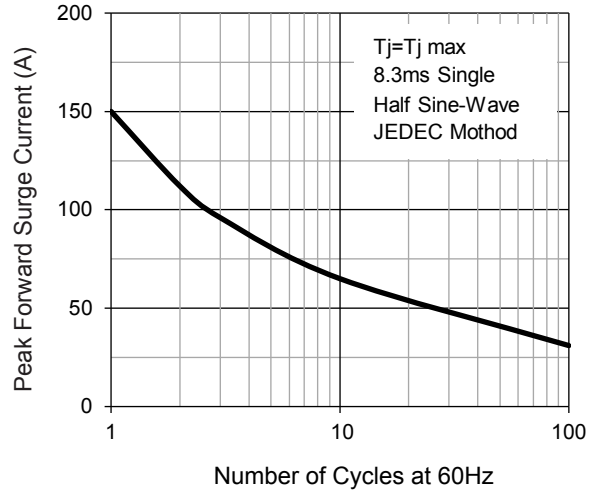


Figure 2. Maximum Non-Repetitive Surge Current

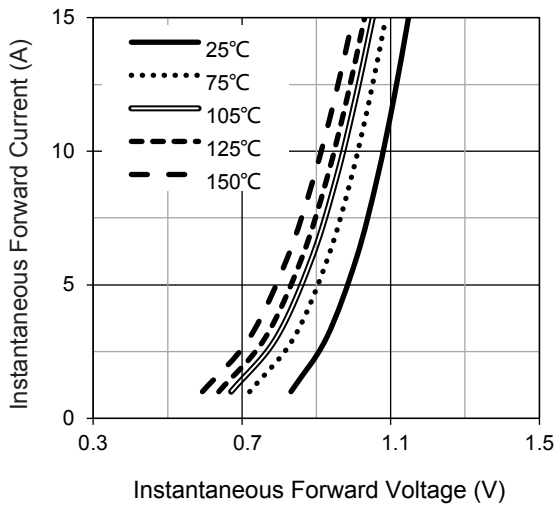


Figure 3. Typical Forward Voltage Characteristics

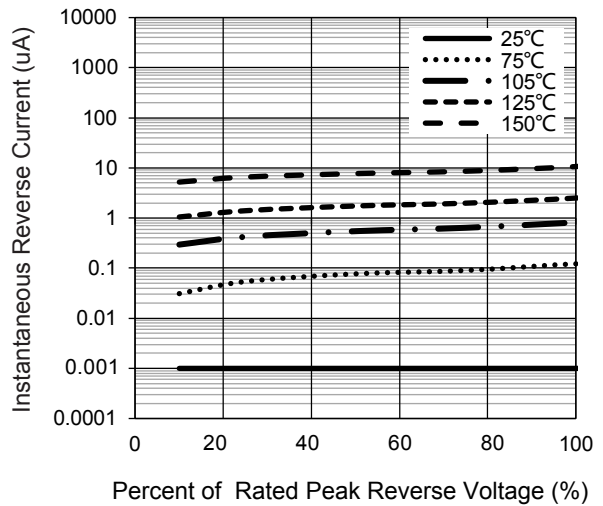


Figure 4. Typical Reverse Current Characteristics

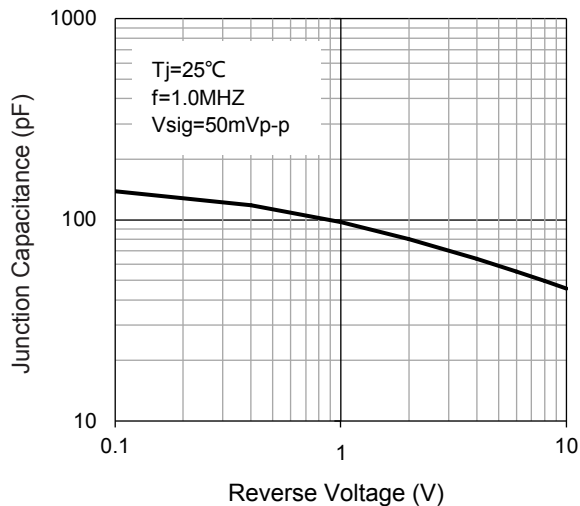
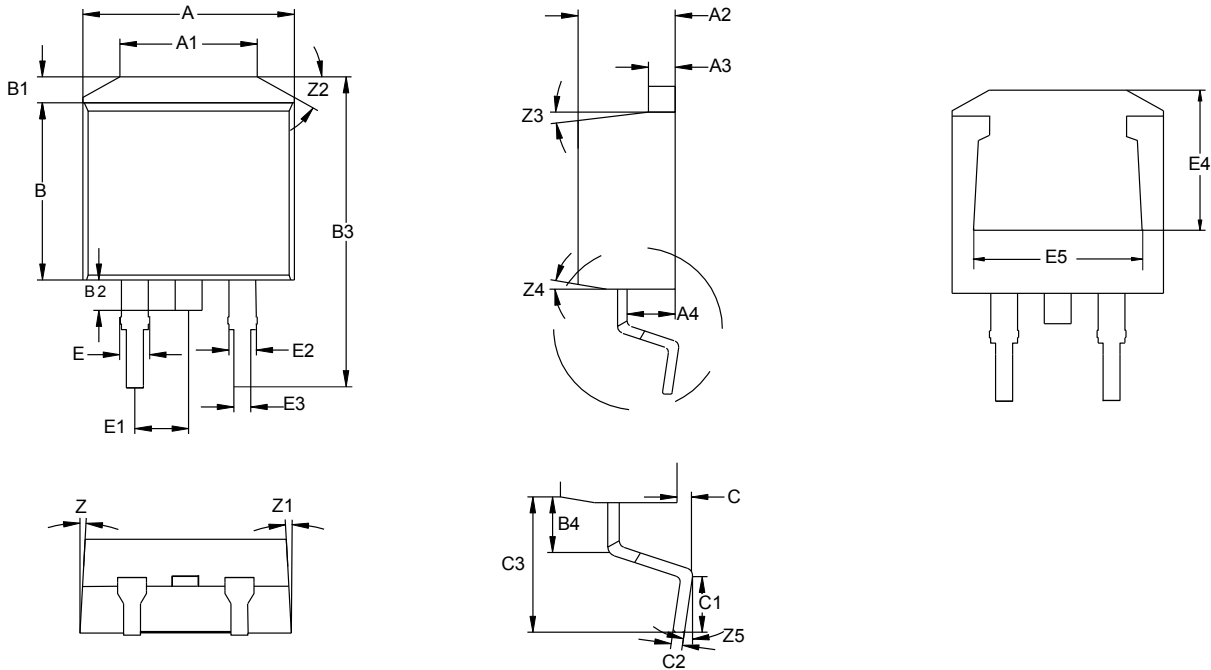


Figure 5. Typical Junction Capacitance

Package Outline Dimensions TO-263 (D²PAK)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.80	10.20	0.386	0.402
A1	6.50	-	0.256	-
A2	4.40	4.80	0.173	0.189
A3	1.17	1.37	0.046	0.054
A4	2.37	2.97	0.093	0.117
B	8.50	8.90	0.335	0.350
B1	1.07	1.47	0.042	0.058
B2	1.20	1.80	0.047	0.071
B3	15.00	15.60	0.591	0.614
B4	1.80	2.20	0.071	0.087
C	0.00	0.25	0.000	0.010
C1	2.34	2.74	0.092	0.108
C2	0.30	0.50	0.012	0.020
C3	5.00	5.60	0.197	0.220
E	1.17	1.57	0.046	0.062
E1	2.44	2.64	0.096	0.104
E2	1.17	1.37	0.046	0.054
E3	0.70	0.90	0.028	0.035
E4	6.47	6.87	0.255	0.270
E5	8.30	8.70	0.327	0.343
Z	3° NOM		3° NOM	
Z1	3° NOM		3° NOM	
Z2	30° NOM		30° NOM	
Z3	7° NOM		7° NOM	
Z4	7° NOM		7° NOM	
Z5	-4°	4°	-4°	4°