



SFF20xxH-P3 Series

Dual Ultrafast Plastic Rectifier

Reverse Voltage 50 to 600 V
Forward Current 20 A

TO-3PML

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center-tap
- Glass passivated chip junctions
- Superfast recovery times for high efficiency
- Low forward voltage, high current high current capability
- Low thermal resistance, low power loss
- High temperature soldering guaranteed: 250°C, 0.16" (4.06mm) from case for 10 seconds

Mechanical Data

Case: JEDEC TO-3PML molded plastic body overpassivated chips

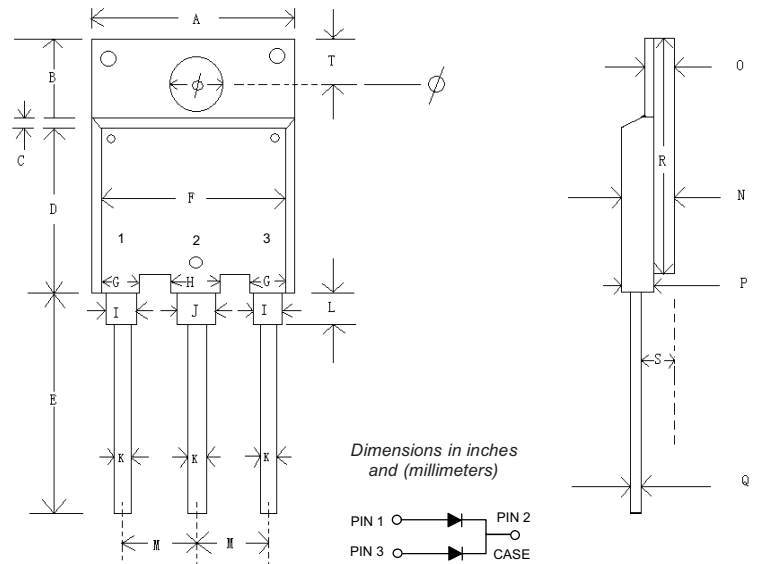
Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Polarity: As marked

Mounting Position: Any

Mounting Torque: 10 in. - lbs. max.

Weight: 0.22 oz., 6.3 g



Maximum Ratings and Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise noted.

Parameter	Symbol	SFF 2005H	SFF 2010H	SFF 2015H	SFF 2020H	SFF 2030H	SFF 2040H	SFF 2050H	SFF 2060H	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	V
Transient Peak Reverse Voltage	V _{RSM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current at T _C = 100°C	I _{F(AV)}	20								A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load (JEDEC method) at T _C = 100°C	I _{FSM}	140								A
Maximum thermal resistance ⁽¹⁾	R _{θJC}	2.0								°C/W
Operating storage and temperature range	T _J , T _{STG}	-55 to +150								°C/W

Electrical Characteristics

Parameter	Symbol	SFF 2005H	SFF 2010H	SFF 2015H	SFF 2020H	SFF 2030H	SFF 2040H	SFF 2050H	SFF 2060H	Unit	
Maximum instantaneous forward voltage per leg at 10 A	V _F	1.2			1.5		1.68			V	
Maximum DC reverse current at rated DC blocking voltage T _C = 25°C T _J = 150°C	I _R	10				300					μA
Maximum reverse recovery time per leg at I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A	t _{rr}	35								ns	
Typical junction capacitance per leg at 4.0V, 1MHz	C _J	175						40		pF	

Notes: (1) Thermal resistance from junction to case per leg mounted on heatsink



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

Fig. 1 – Forward Current Derating Curve

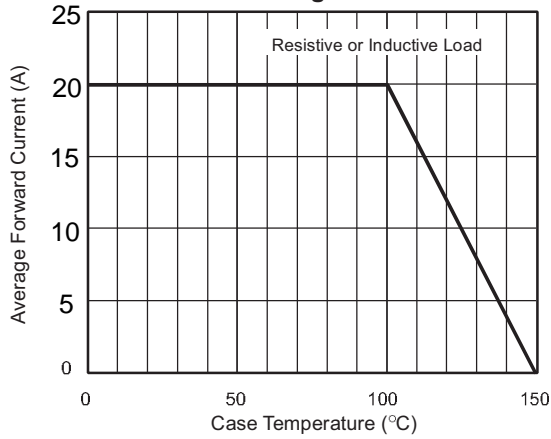


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

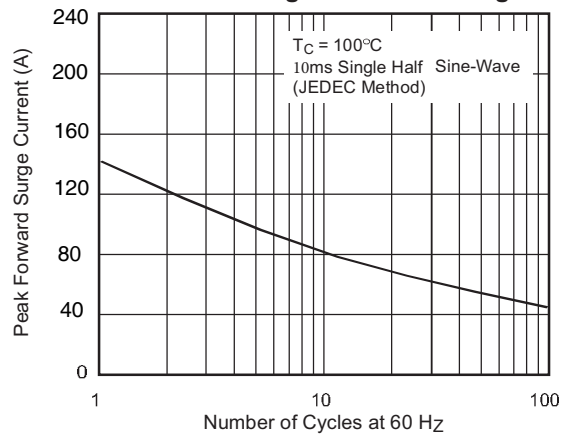


Fig. 3 – Typical Instantaneous Forward Characteristics Per Leg

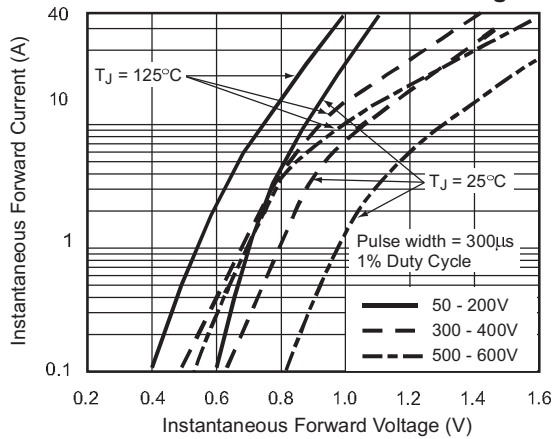


Fig. 4 – Typical Reverse Characteristics Per Leg

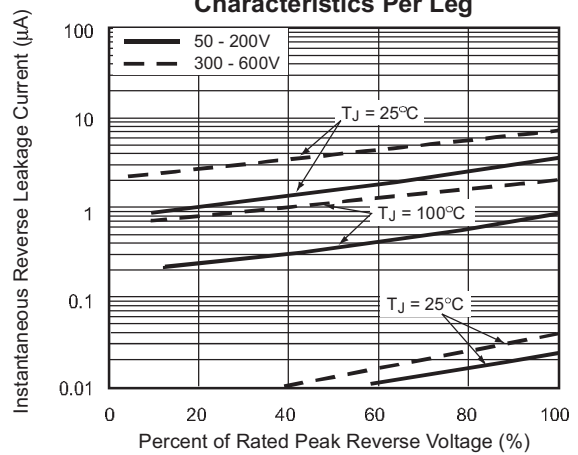
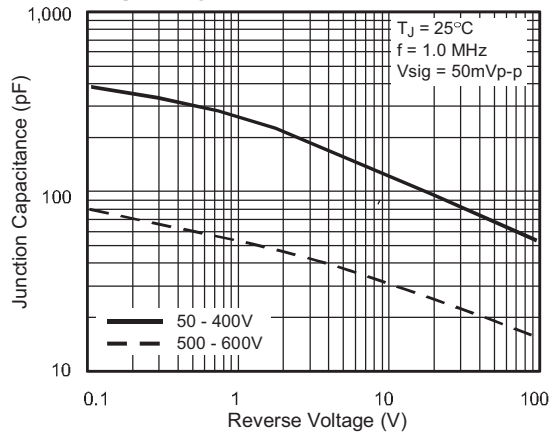
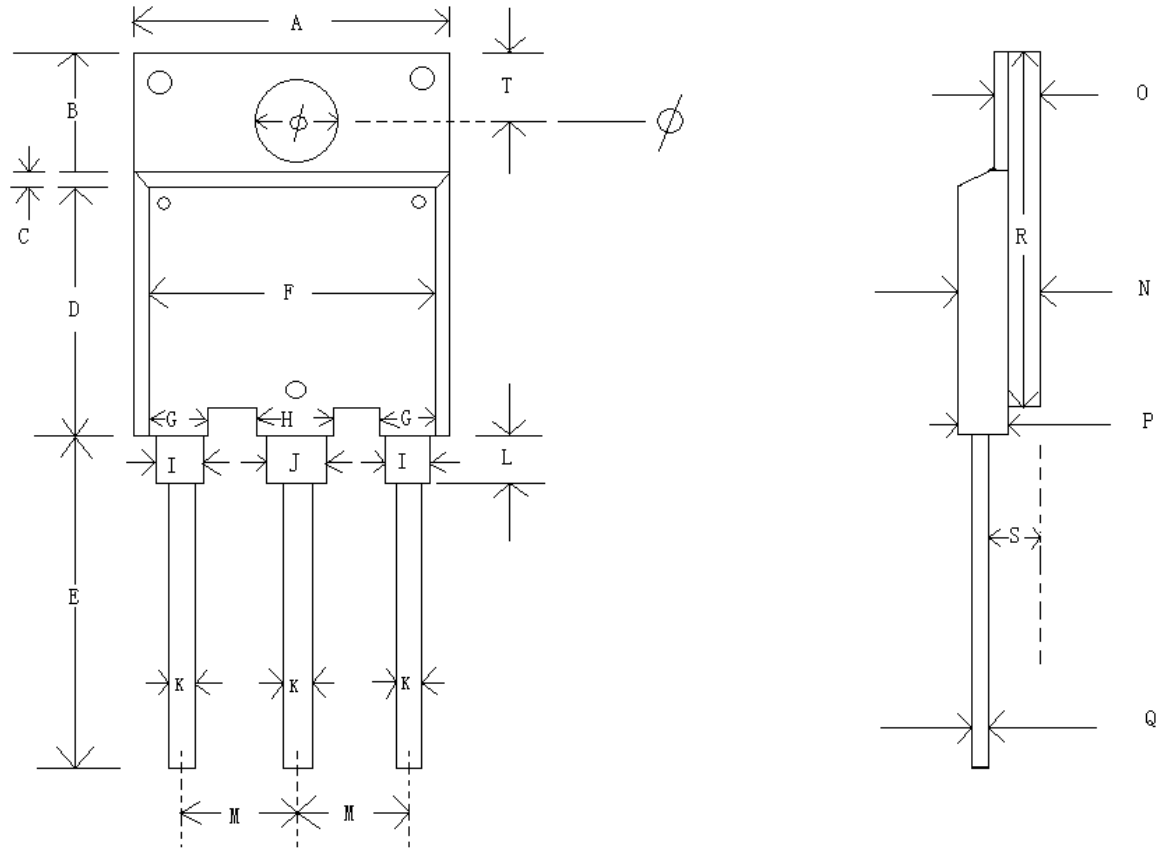


Fig. 5 – Typical Junction Capacitance





Package Outline Dimensions



Unit: mm

Code	Min	Max	Code	Min	Max
A	15.2	16.2	B	7.2	8.2
C	0.6	1.0	D	12.5	13.5
E	18.3	20.3	F	14.2	15.2
G	3.1	4.1	H	3.3	4.3
I	1.9	2.4	J	2.75	3.25
K	0.75	1.25	L	3.0	5.0
M	5.25	5.55	N	4.9	5.9
O	2.45	3.45	P	2.9	3.9
Q	0.5	0.7	R	19.2	20.2
S	3.1	4.1	T	4.4	5.4
ϕ	3.15	3.65			