

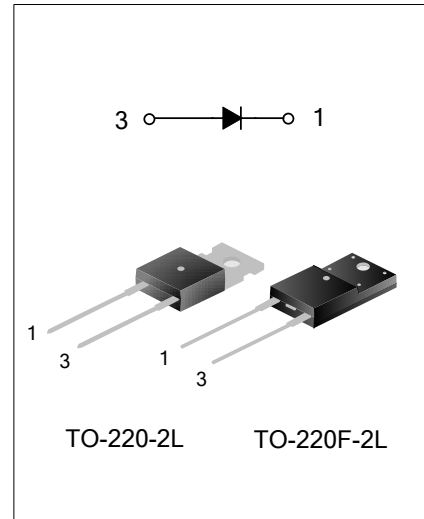
## 15A, 600V SUPER-FAST RECOVERY RECTIFIER

### GENERAL DESCRIPTION

SFR15F60T2/F2 is a Super-Fast Recovery Diode, fabricated in advanced silicon planar epitaxial technology. The process parameter and the device structure are fine tuned with optimized performance of forward voltage drop and reverse recovery time.

Accuracy epitaxial dope control, advanced planar junction terminal structure and the platinum doped life control, guarantee the best overall performance, ruggedness and reliability characteristics.

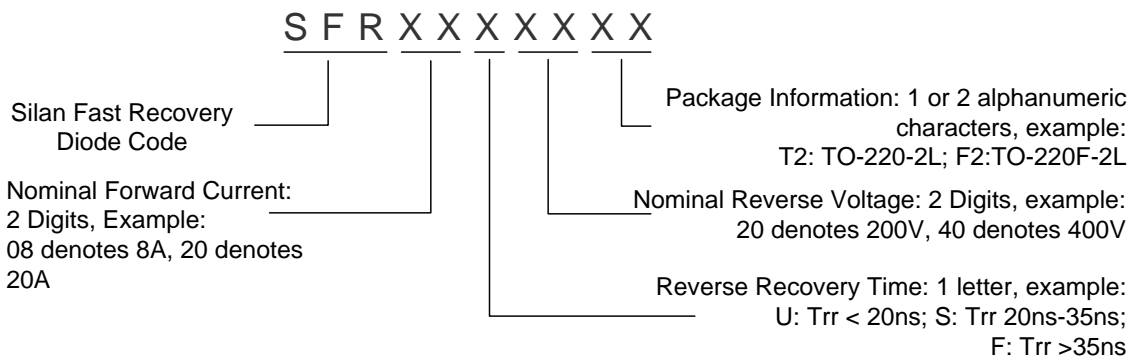
SFR15F60T2/F2 is intended for use in the output rectification stage of SMPS, UPS, DC-DC converters as well as free-wheeling diode in low voltage inverters and chopper motor drivers.



### FEATURES

- ♦ Ultrafast 60ns Recovery Time
- ♦ High current capability
- ♦ Low Forward Voltage Drop
- ♦ High Surge Current Capability
- ♦ Low Reverse Current Leakage
- ♦ 150°C Operating Junction Temperature

### NOMENCLATURE



### ORDERING INFORMATION

Part No.	Package	Marking	Hazardous Substance Control	Packing
SFR15F60T2	TO-220-2L	SFR15F60T2	Halogen free	Tube
SFR15F60F2	TO-220F-2L	SFR15F60F2	Halogen free	Tube

## ABSOLUTE MAXIMUM RATINGS

Characteristics	Symbol	Ratings	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
Average Rectified Forward Current	$I_{F(AV)}$	15.0	A
Peak Forward Surge Current @8.3ms	$I_{FSM}$	100	A
Operation Junction Temperature Range	$T_J$	-40~+150	°C
Storage Temperature Range	$T_{stg}$	-40~+150	°C

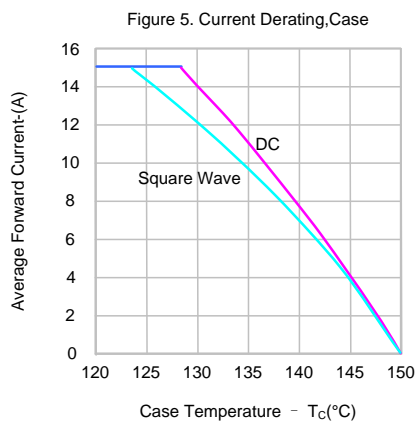
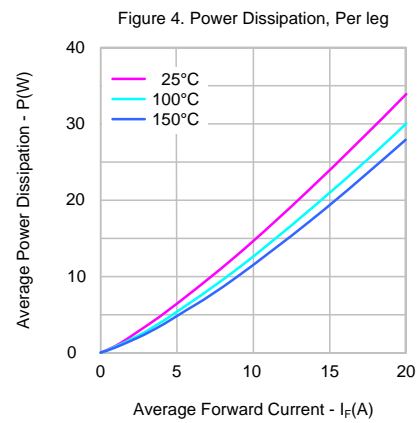
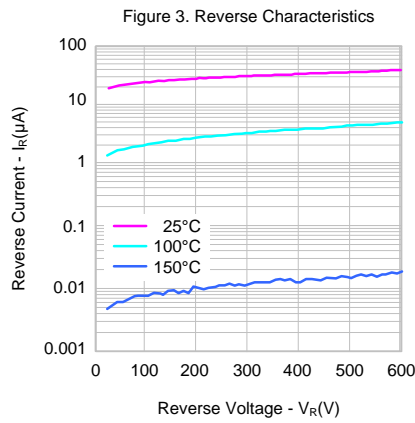
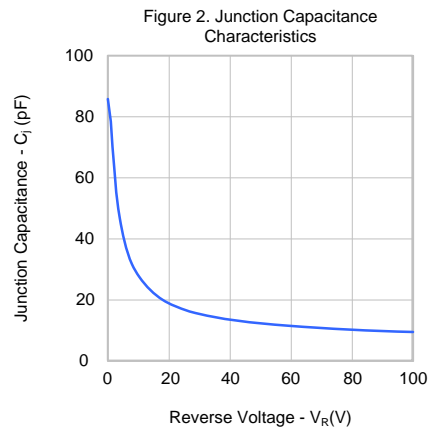
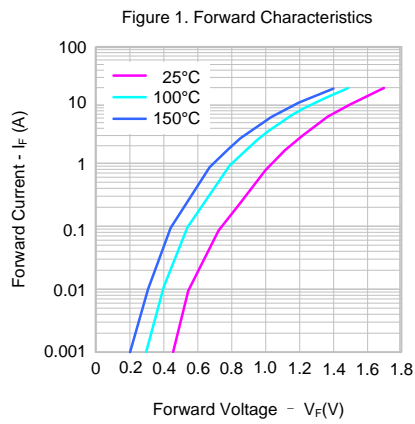
## ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Maximum Forward Voltage ( $I_F=20.0Amps, T_C=25^{\circ}C$ )	$V_F$	--	--	2.4	V
Maximum Reverse Leakage Current (Rated DC voltage, $T_C=25^{\circ}C$ )	$I_R$	--	--	5.0	$\mu A$
Maximum Reverse Recovery Time ( $I_F=0.5Amp, I_R=1.0Amp, I_{REC}=0.25Amp$ )	$t_{rr}$	--	--	60	ns

## THERMAL CHARACTERISTICS (per leg)

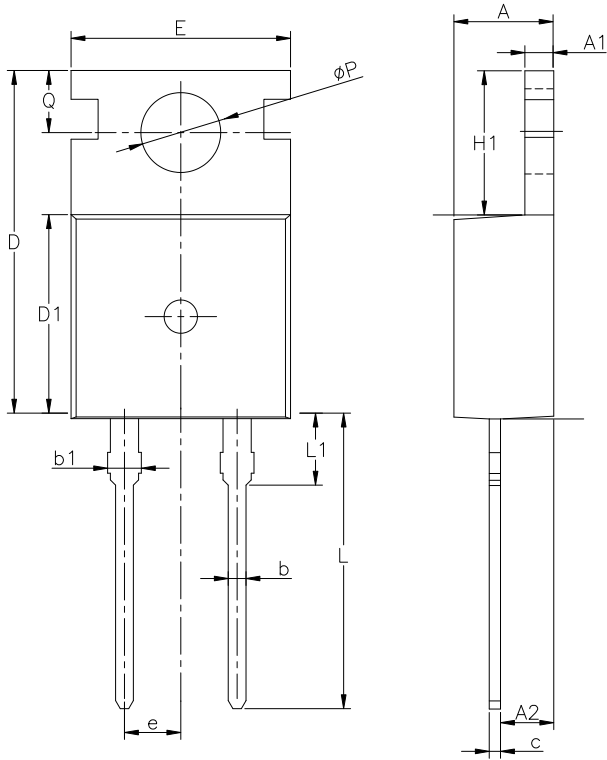
Characteristics	Symbol	Rating	Unit
Thermal Resistance, Junction-to-Case(TO-220-2L)	$R_{\theta JC}$	1.2	°C/W

**TYPICAL CHARACTERISTICS**



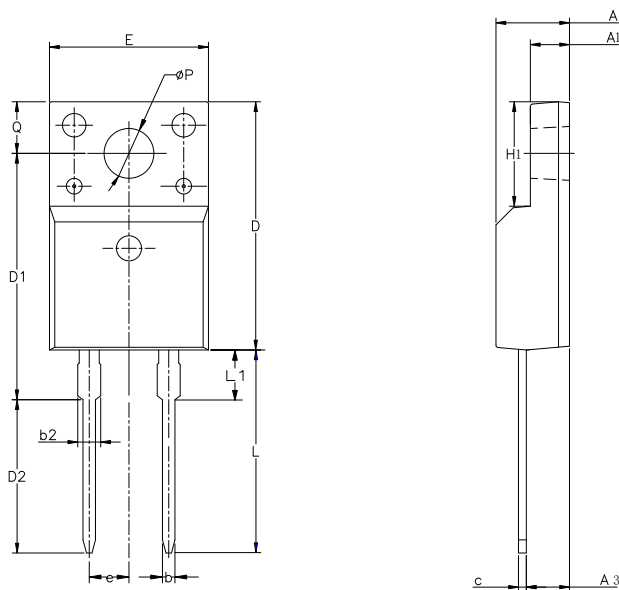
**PACKAGE OUTLINE**

**TO-220-2L** Unit: mm



SYMBOL	MIN	NOM	MAX
A	4.30	4.50	4.70
A1	1.00	1.30	1.50
A2	1.80	2.40	2.80
b	0.60	0.80	1.00
b1	1.00	—	1.60
c	0.30	—	0.70
D	15.10	15.70	16.10
D1	8.10	9.20	10.00
E	9.60	9.90	10.40
e	2.54BSC		
H1	6.10	6.50	7.00
L	12.60	13.08	13.60
L1	—	—	3.95
$\phi P$	3.40	3.70	3.90
Q	2.60	—	3.20

**TO-220F-2L** Unit: mm



SYMBOL	MIN	NOM	MAX
A	4.42	4.70	5.02
A1	2.30	2.54	2.80
A3	2.50	2.76	3.10
b	0.70	0.80	0.90
b2	—	—	1.47
c	0.35	0.50	0.65
D	15.25	15.87	16.25
D1	15.30	15.75	16.30
D2	9.30	9.80	10.30
E	9.73	10.16	10.36
e	2.54BCS		
H1	6.40	6.68	7.00
L	12.48	12.98	13.48
L1	/	/	3.50
$\phi P$	3.00	3.18	3.40
Q	3.05	3.30	3.55

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Rev.: 1.2

## Revision History:

1. Add THERMAL CHARACTERISTICS
  2. Add Fig 5
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Rev.: 1.1

## Revision History:

1. Modify the package outline of TO-220-2L
  2. Modify the package outline of TO-220F-2L
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Rev.: 1.0

## Revision History:

1. First release
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