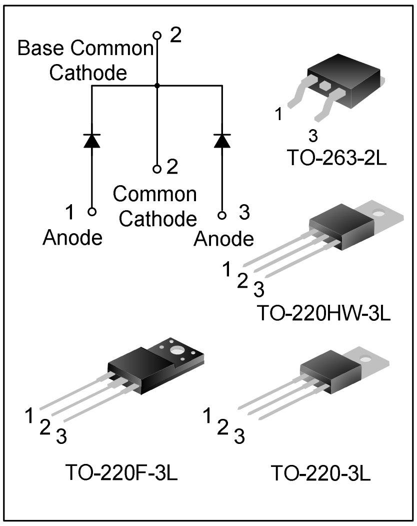
20A, 150V SCHOTTKY RECTIFIER

GENERAL DESCRIPTION

SBD20C150T/F/S is schottky rectifier fabricated in silicon epitaxial planar technology. Typical applications are in switching power supplies and protection circuit etc.



FEATURES

- Guard ring for Stress Protection
- High Surge Capacity
- Low power loss , high efficiency
- Low forward voltage drop

ORDERING INFORMATION

Part No.	Package	Marking	Hazardous Substance Control	Packing
SBD20C150T	TO-220-3L	SBD20C150T	Pb free	Tube
SBD20C150F	TO-220F-3L	SBD20C150F	Pb free	Tube
SBD20C150T	TO-220HW-3L	SBD20C150T	Pb free	Tube
SBD20C150S	TO-263-2L	SBD20C150S	Halogen free	Tube
SBD20C150STR	TO-263-2L	SBD20C150S	Halogen free	Tape & Reel

ABSOLUTE MAXIMUM RATINGS (unless otherwise noted, T_C=25°C)

Characteristics	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	150	V
Average Forward Rectified Current	I_{FAV}	20	A
Peak Forward Surge Current@8.3ms	I_{FSM}	150	A
Operation Junction Temperature Range(Note 1)	T_J	-55~150	°C
Storage Temperature Range	T_{STG}	-55~150	°C

Note 1: $\frac{dPtot}{dTj} < \frac{1}{Rth(j-a)}$ Condition to avoid thermal runaway for a diode on its own heatsink.

THERMAL RESISTANCE CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case（TO-220-3L\TO-220HW-3L）	$R_{\theta JC}$	2.0	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Test conditions	Min.	Max.	Unit
Forward voltage	V_F	I_F=10A , T_C=25°C	--	0.9	V
		I_F=10A, T_C=125°C	--	0.75	V
Reverse current	I_R	V_R=150V, T_C =25°C	--	50	μA
		V_R=150V, T_C =125°C	--	25	mA

TYPICAL CHARACTERISTIC CURVE

Figure 1.Typical Forward Characteristics

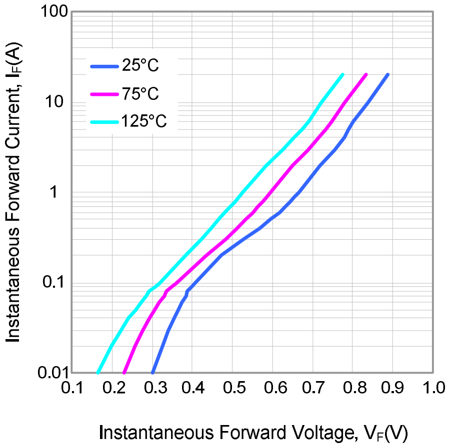


Figure 2.Typical Reverse Characteristics

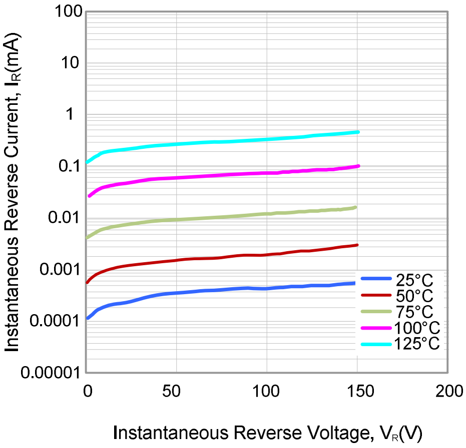


Figure3.Capacitance Characteristics

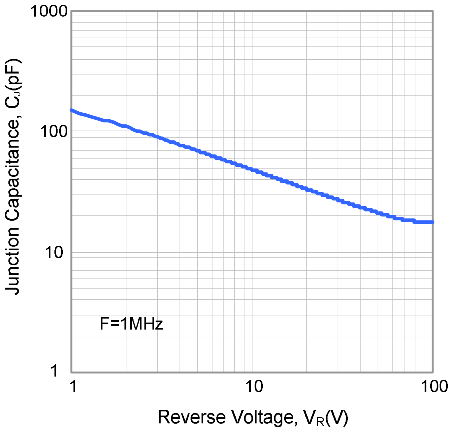
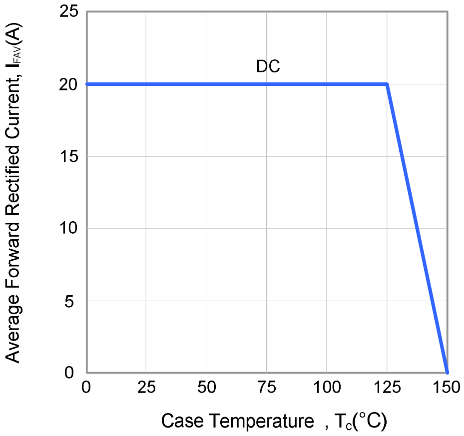
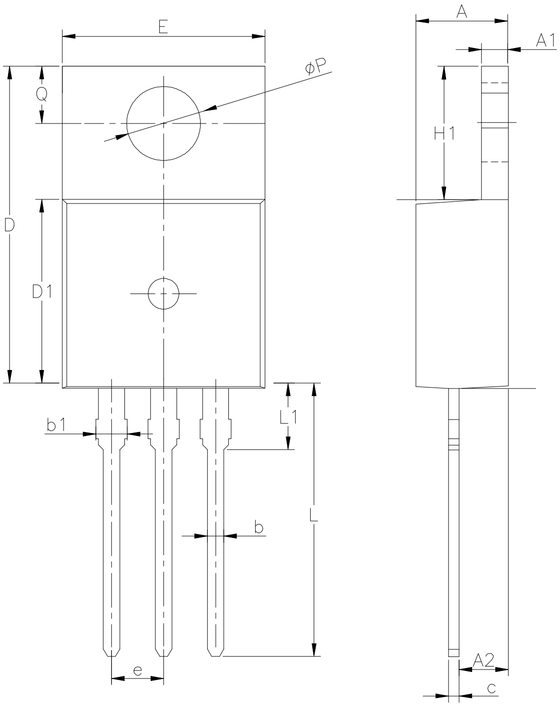


Figure 4.Typical Forward Current Derating Curve



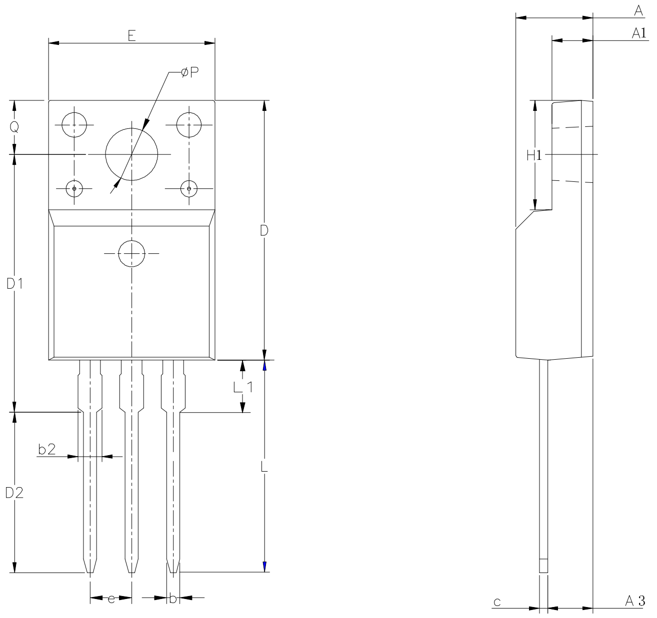
PACKAGE OUTLINE

TO-220-3L **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
ΦP	3.40	3.70	3.90
Q	2.60	—	3.20

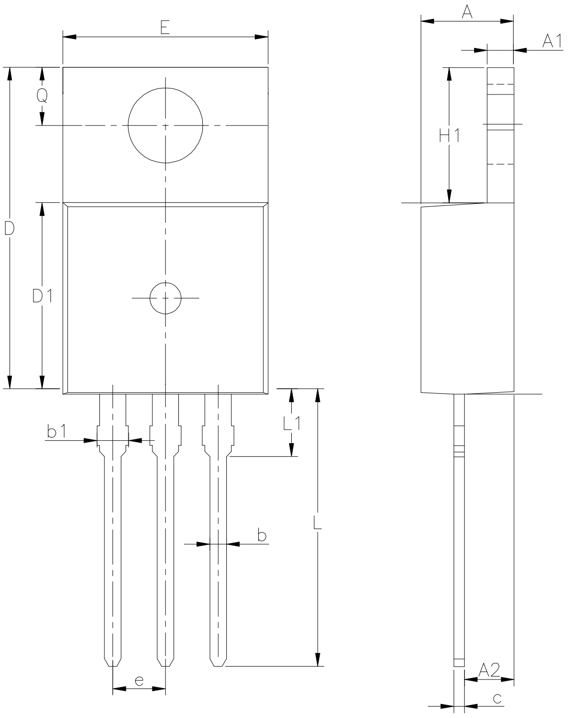
TO-220F-3L **UNIT: mm**



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
ØP	3.00	3.18	3.40
Q	3.05	3.30	3.55

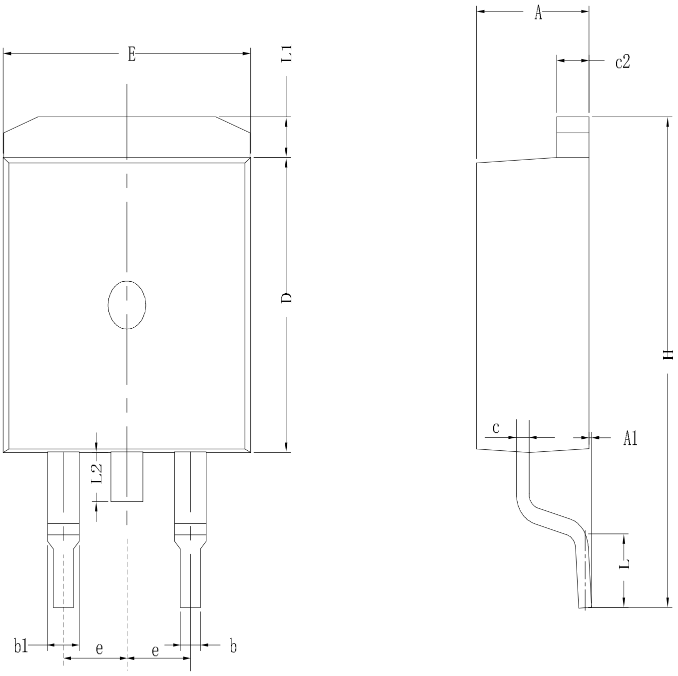
PACKAGE OUTLINE(continued)

TO-220HW-3L **UNIT: mm**



SYMBOL	MIN	NOM	MAX
A	4.30	4.50	4.70
A1	1.25	1.27	1.40
A2	1.80	2.50	2.80
b	0.70	0.80	0.95
b1	1.26	1.42	1.50
c	0.33	0.38	0.40
D	15.10	15.70	16.10
D1	8.80	9.15	9.40
E	9.60	10.20	10.40
e	2.54		
H1	6.10	6.50	7.00
L	12.60	13.10	13.60
L1	—	—	3.50
Q	2.70	—	2.90

TO-263-2L **UNIT: mm**



SYMBOL	MIN	NOM	MAX
A	4.30	4.57	4.72
A1	0	0.10	0.25
b	0.71	0.81	0.91
c	0.30	---	0.60
c2	1.17	1.27	1.37
D	8.50	---	9.35
E	9.80	---	10.45
e	2.54BSC		
H	14.70	---	15.75
L	2.00	2.30	2.74
L1	1.12	1.27	1.42
L2	---	---	1.75

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1. Modify the curve

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Revision History:

1. Modify the absolute maximum ratings

Rev.: 2.0 Author: Yin Zi

Revision History:

1. Modify the typical characteristic curve
2. Modify the package outline of TO-263-2L

Rev.: 1.9 Author: Yin Zi

Revision History:

1. Modify the package information of TO-220HW-3L
2. Modify the package information of TO-220-3L

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1. Modify the package information of TO-220F-3L
2. Add the the package of TO-220HW-3L
3. Add the the package of TO-263-2L

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Revision History:

1. Modify the template of datasheet

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Revision History:

1. Add TO-220-3L, TO-220F-3L package of youyi

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