

10A, 45V SCHOTTKY RECTIFIER

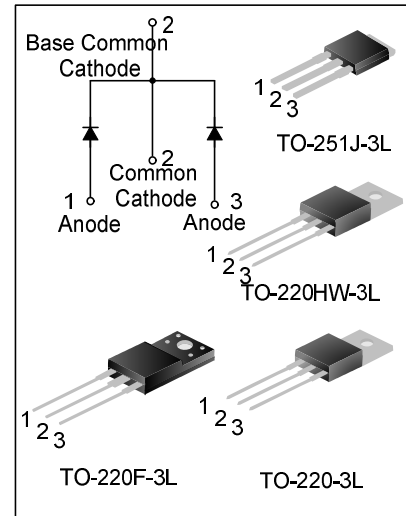
GENERAL DESCRIPTION

SBD10C45T/F/MJ is schottky rectifier fabricated in silicon epitaxial planar technology, Guard ring construction for over voltage protection and enhanced long term reliability.

Typical applications are in switching power supplies, converter, free-wheeling diodes, and reverse battery protection.

FEATURES

- ◆ Guard ring for Stress Protection
- ◆ High Surge Capacity
- ◆ Low power loss , high efficiency
- ◆ Low Forward Voltage Drop
- ◆ 150°C Operating Junction Temperature



ORDERING INFORMATION

Part No.	Package	Marking	Hazardous Substance Control	Packing
SBD10C45T	TO-220-3L	SBD10C45T	Pb free	Tube
SBD10C45F	TO-220F-3L	SBD10C45F	Pb free	Tube
SBD10C45MJ	TO-251J-3L	SBD10C45MJ	Halogen free	Tube
SBD10C45T	TO-220HW-3L	SBD10C45T	Pb free	Tube

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

Characteristics	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	45	V
Average Forward Rectified Current	I _{FAV}	10	A
Peak Forward Surge Current@8.3ms	I _{FSM}	120	A
Operation Junction Temperature Range(Note 1)	T _J	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C

Note 1: $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{th(j-a)}}$ condition to avoid thermal runaway for a diode on its own heatsink.

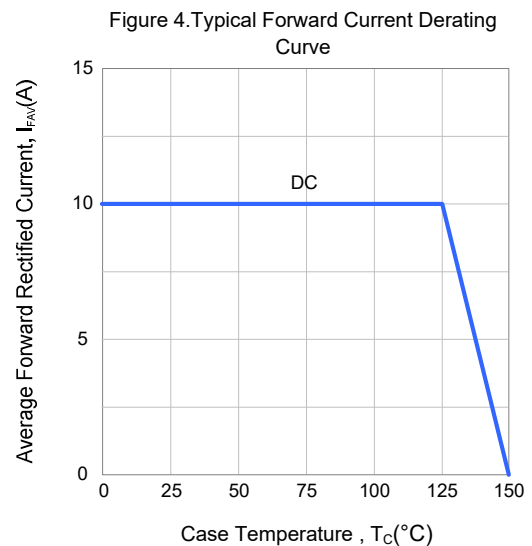
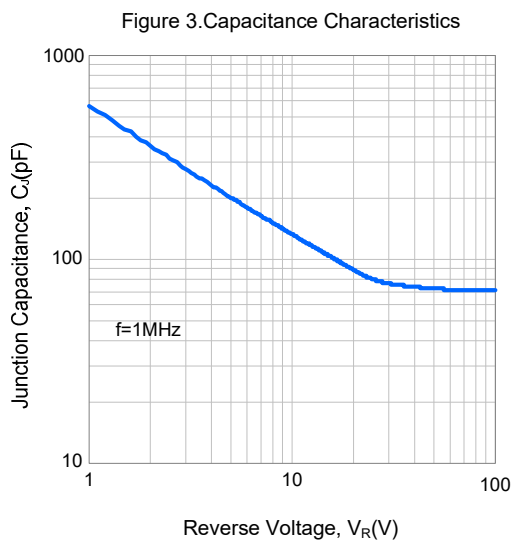
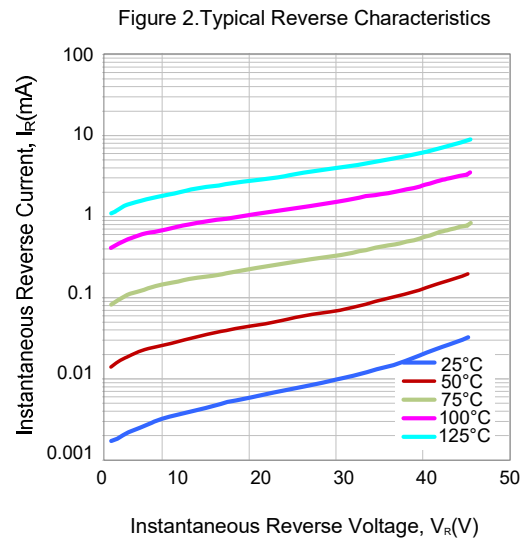
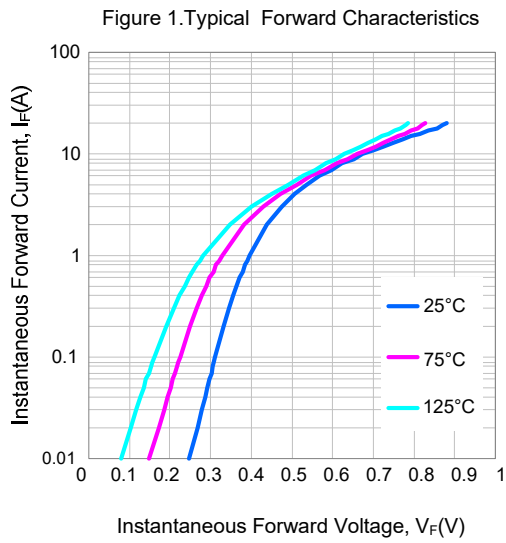
ERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case(TO-220-3L\TO-220HW-3L)	R _{θJC}	2.0	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Test conditions	Min.	Max.	Unit
Forward voltage	V_F	$I_F=5A, T_C=25^{\circ}C$	--	0.65	V
		$I_F=5A, T_C=125^{\circ}C$	--	0.57	V
Reverse current	I_R	$V_R=45V, T_C=25^{\circ}C$	--	100	μA
		$V_R=45V, T_C=125^{\circ}C$	--	15	mA

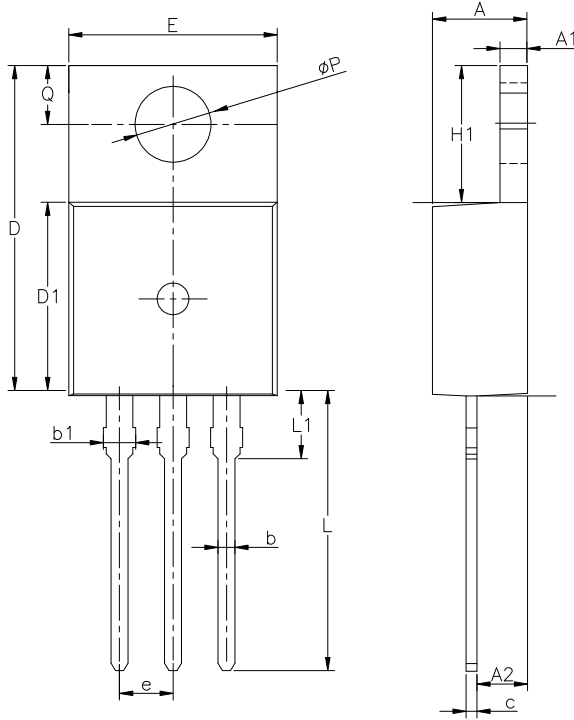
TYPICAL CHARACTERISTIC CURVE



PACKAGE OUTLINE

TO-220-3L

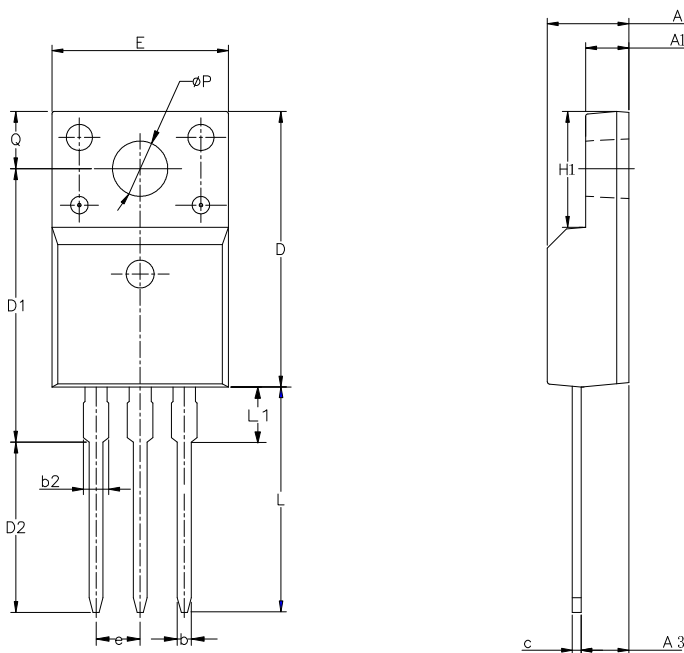
UNIT: mm



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

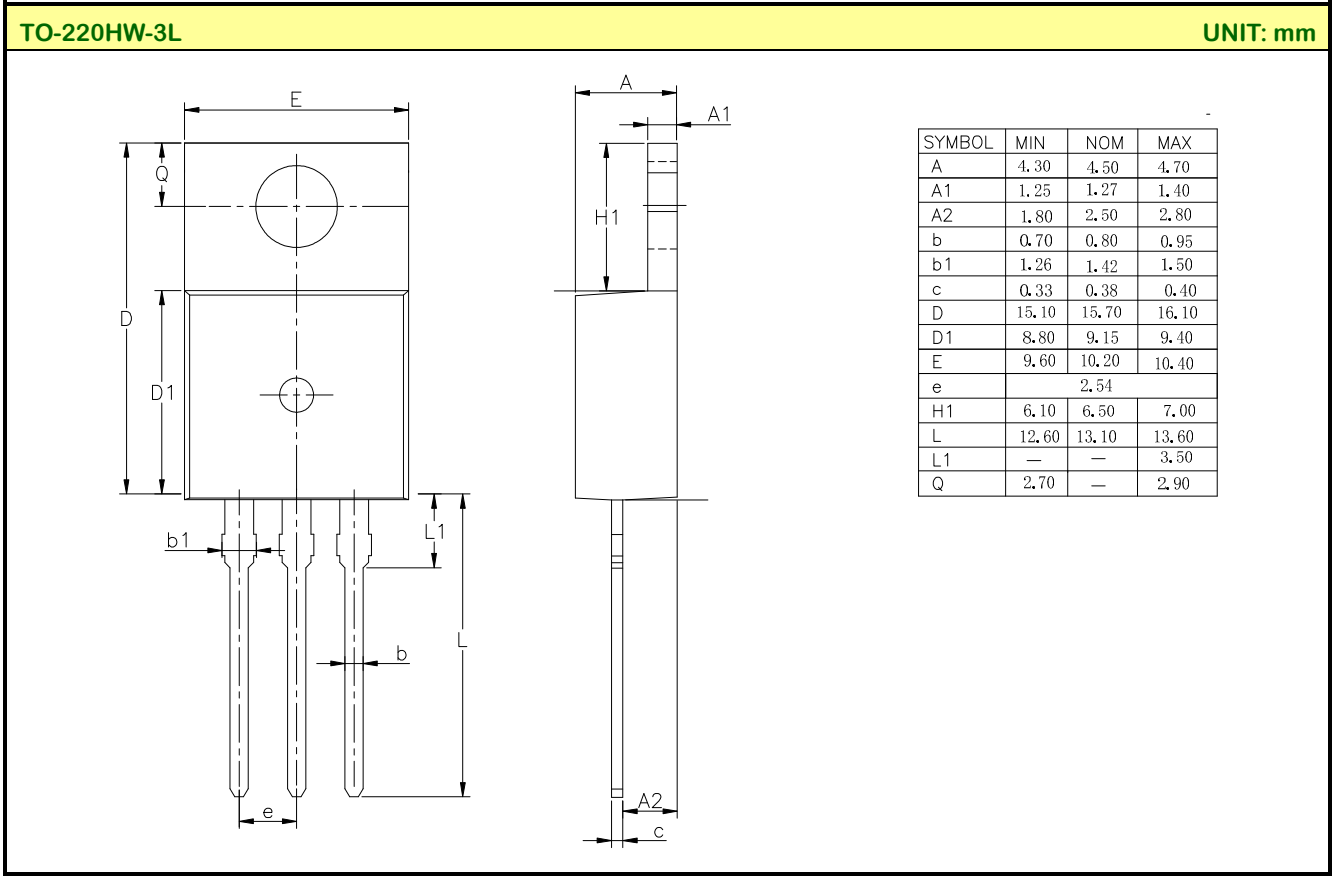
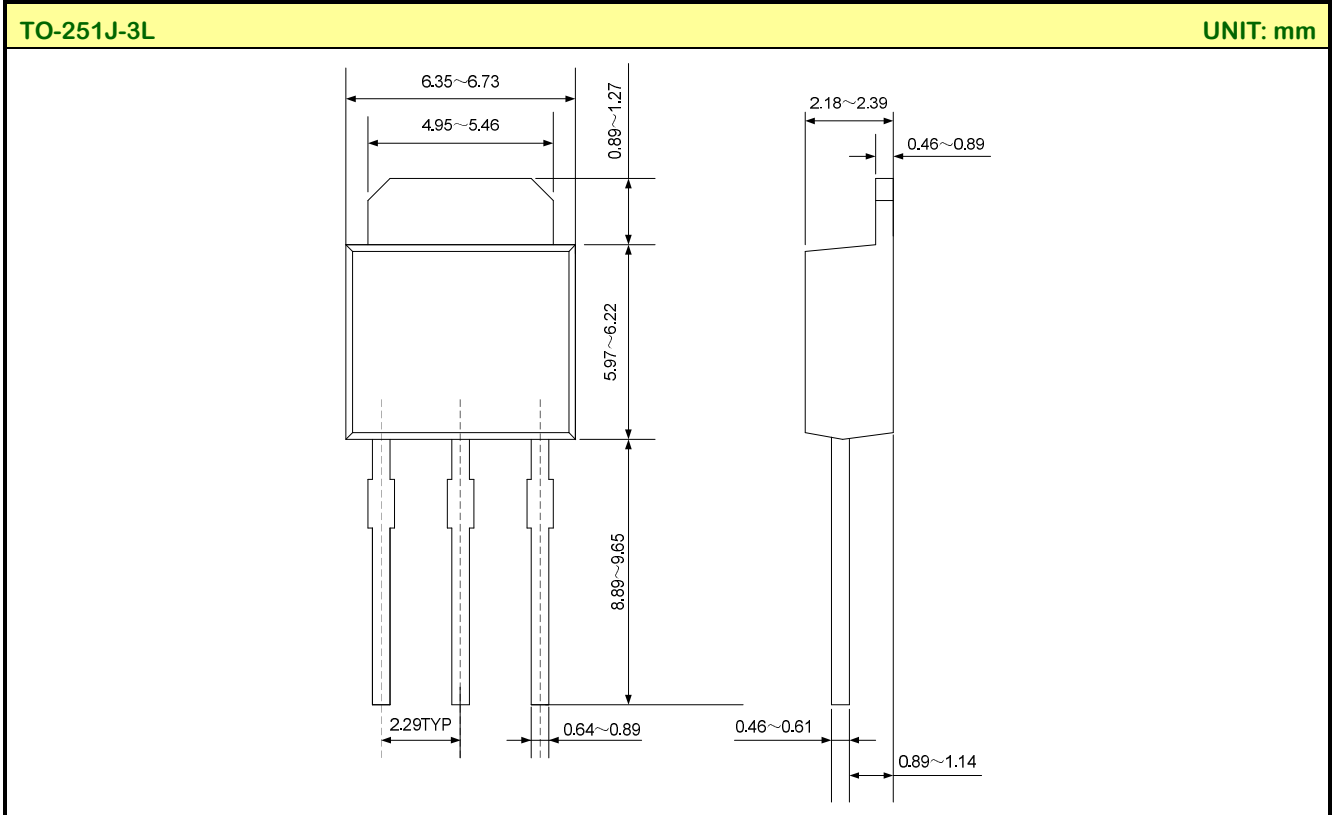
TO-220F-3L

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
ϕP	3.00	3.18	3.40
Q	3.05	3.30	3.55

PACKAGE OUTLINE(continued)



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Revision History:

1. Original
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