

TO-247- 3L Plastic-Encapsulate Diodes

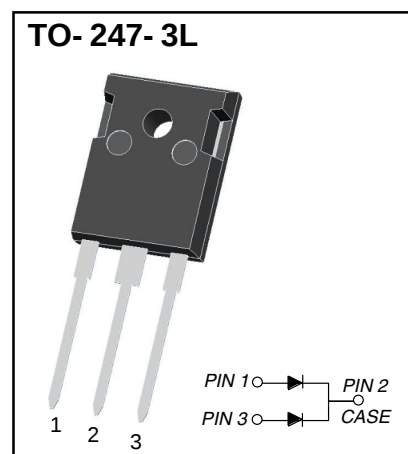
Schottky Barrier Rectifier

MAIN CHARACTERISTICS

I_O	40(20×2)A
V_{RRM}	100 V
T_j	175 °C
$V_{F(typ)}$	0.66V (@ $T_a=150^{\circ}C$)

FEATURES

- Low Power Loss,High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop
- Metal Silicon Junction, Majority Carrier Conduction.
- For Use In Low Voltage,High Frequency Inverters, Free Wheeling and Polarity Protection Applications.



Mechical Data

- Case: TO-247-3L
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208

MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	SBDW40H100CTB	Unit
V_{RRM}	Peak repetitive reverse voltage	100	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	70	V
I_O	Average rectified output current@ Per leg	20	A
	Average rectified output current@ Total device	40	A
I_{FSM}	Non-Repetitive peak forward surge current 8.3ms half sine wave	300	A
$R_{\theta JC}$	Thermal resistance from junction to case	1.5	°C/W
T_j	Operating Junction Temperature Range	-55 ~ +175	°C
T_{stg}	Storage Temperature Range	-55 ~ +175	°C

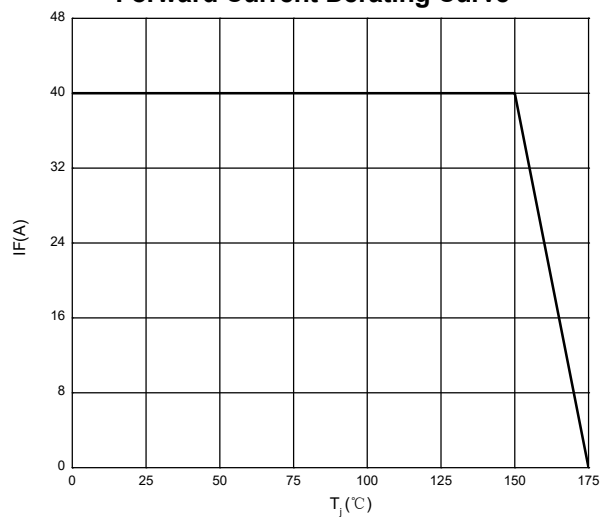
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=1mA$	100			V
Reverse current	I_R	$V_R=100V$	$T_j=25^{\circ}C$	0.13	1.0	uA
			$T_j=150^{\circ}C$	0.80		mA
Forward voltage	V_F	$I_F=10A$	$T_j=25^{\circ}C$	0.72		V
			$T_j=150^{\circ}C$	0.58		V
		$I_F=20A$	$T_j=25^{\circ}C$	0.80	0.85	V
			$T_j=150^{\circ}C$	0.66		V

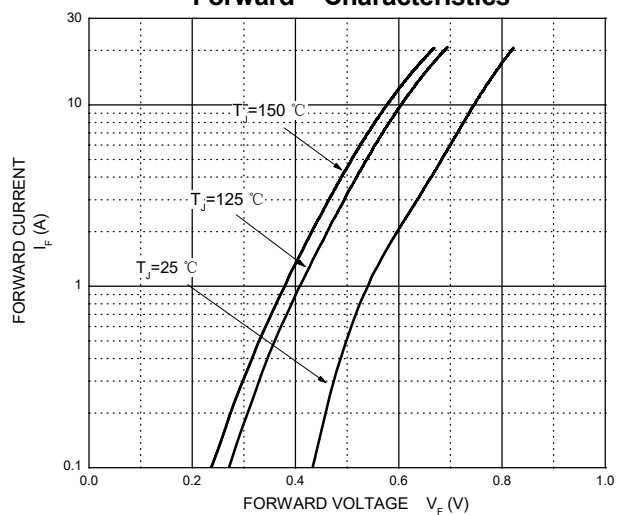
*Pulse test: pulse width $\leq 300\mu s$, duty cycles $\leq 2.0\%$.

Typical Characteristics

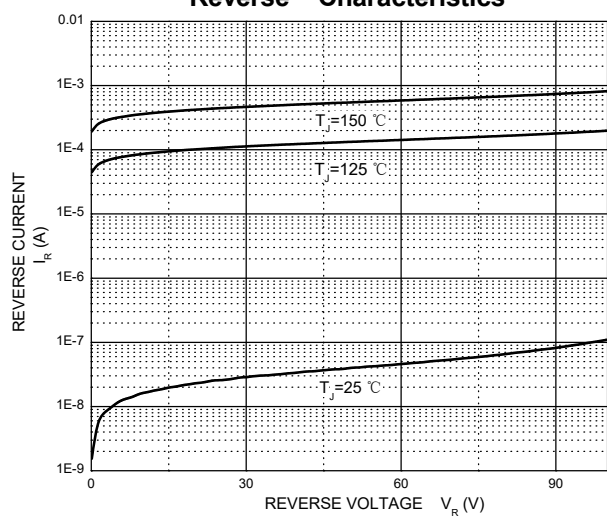
Forward Current Derating Curve



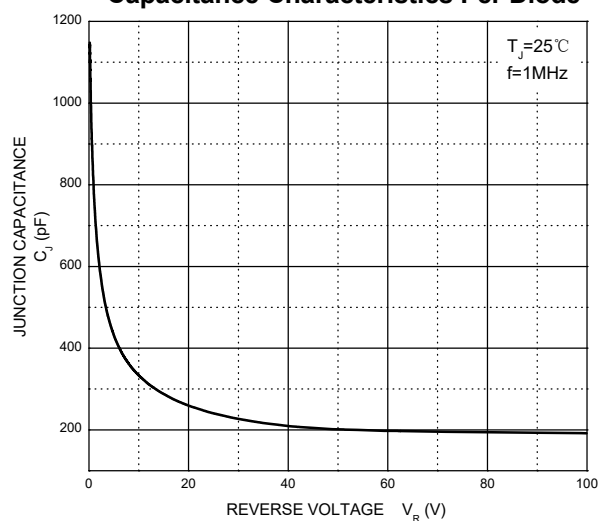
Forward Characteristics



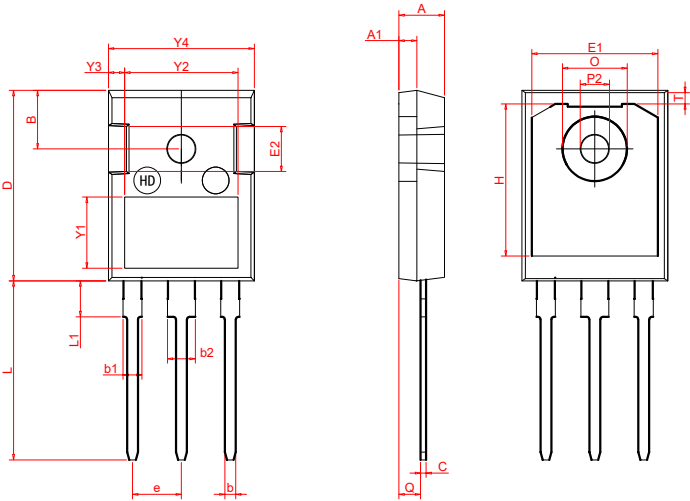
Reverse Characteristics



Capacitance Characteristics Per Diode



TO- 247-3L Package Outline Dimensions

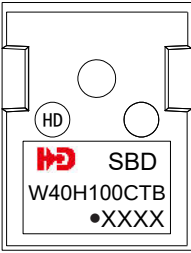


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.700	5.300	0.185	0.209
A1	1.700	2.300	0.067	0.091
C	0.450	0.750	0.018	0.030
Q	2.200	2.600	0.087	0.102
O	7.100	7.400	0.280	0.291
P2	3.450	3.750	0.136	0.148
L	19.000	21.000	0.748	0.827
L1	4.2	4.5	0.165	0.177
b	1.000	1.400	0.039	0.055
b1	1.800	2.250	0.071	0.089
b2	3.000	3.300	0.118	0.130
e	5.250	5.550	0.207	0.219
D	20.950	21.350	0.825	0.841
Y1	7.600	8.100	0.299	0.319
Y2	11.000	13.000	0.433	0.512
Y3	1.750	2.250	0.069	0.089
Y4	16.000	16.400	0.630	0.646
E2	4.600	4.900	0.181	0.193
T	1.35REF		0.053REF	
H	16.25REF		0.639REF	
E1	14REF		0.551REF	
B	6.55REF		0.257REF	

Ordering Information

Part Number	Package	Shipping Quantity
SBDW40H100CTB	TO-247-3L	30pcs/Tube

Marking Diagram



XXXX = Code