

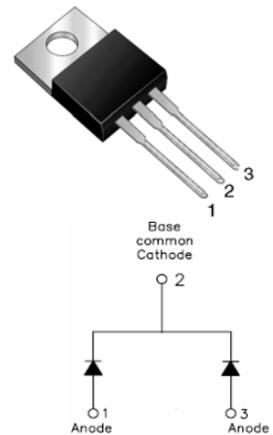
MBR2535CTL SCHOTTKY RECTIFIER

Applications:

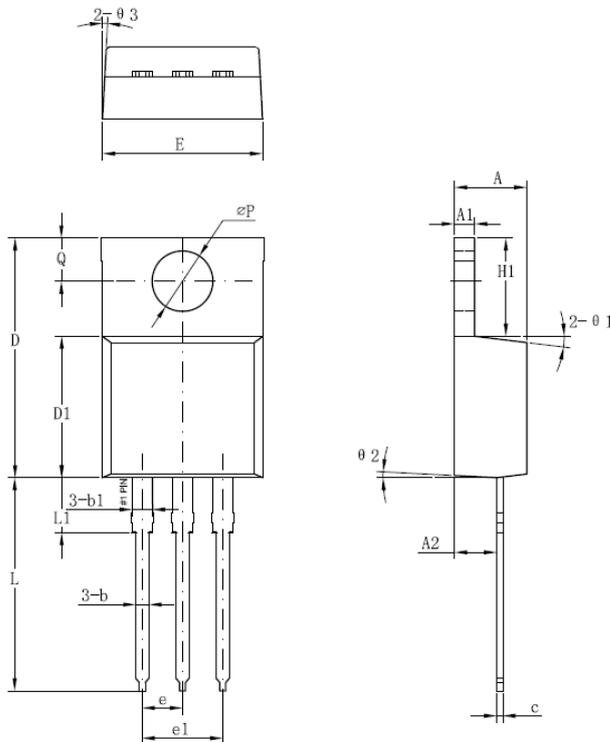
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150°C T_J operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



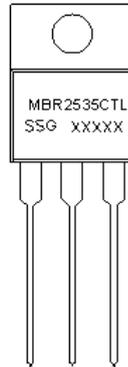
Mechanical Dimensions: In mm



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

TO-220AB(HD)

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Marking Diagram:


Where XXXXX is YYWWL

MBR	= Device Type
25	= Forward Current (25A)
35	= Reverse Voltage (35V)
CTL	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information:

Device	Package	Shipping
MBR2535CTL	TO-220AB (Pb-Free)	50pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V_{RRM}	-	35	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 142^\circ\text{C}$, rectangular wave form	12.5 (per leg) 25 (per device)	A
Peak Repetitive Forward Current	I_{FRM}	Rated V_R , square wave, 20kHz, $T_C = 139^\circ\text{C}$	25	A
Peak Repetitive Reverse Surge Current	I_{RRM}	2.0 μs , 1.0 kHz	1.0	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	150	A
Controlled Avalanche Energy	W_{aval}	-	20	mJ

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	V _{F1}	@ 12.5A, Pulse, T _J = 25 °C	0.47	V
	V _{F2}	@ 12.5A, Pulse, T _J = 125 °C	0.41	V
Reverse Current (per leg) *	I _{R1}	@V _R = rated V _R Pulse T _J = 25 °C	1.0	mA
	I _{R2}	@V _R = rated V _R , Pulse T _J = 125 °C	500	mA
Voltage Rate of Change	dv/dt	-	10,000	V/μs

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

* Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature (Note 1)	T _J	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	R _{θJC}	DC operation, Min. Pad	2.0	°C/W
Maximum Thermal Resistance Junction to Ambient	R _{θJA}	DC operation, Min. Pad	75.0	°C/W
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			

Note1. The heat generated must be less than the thermal conductivity from Junction-to-Ambient: dPD/dT_J < 1/R_{θJA}.

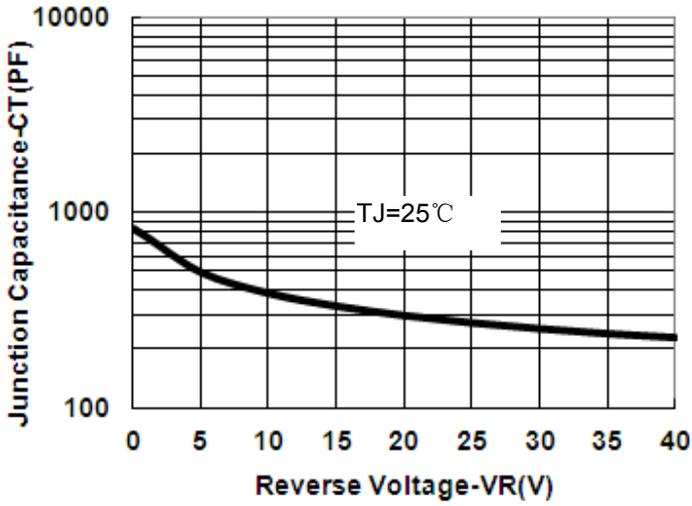


Fig.1-Typical Junction Capacitance

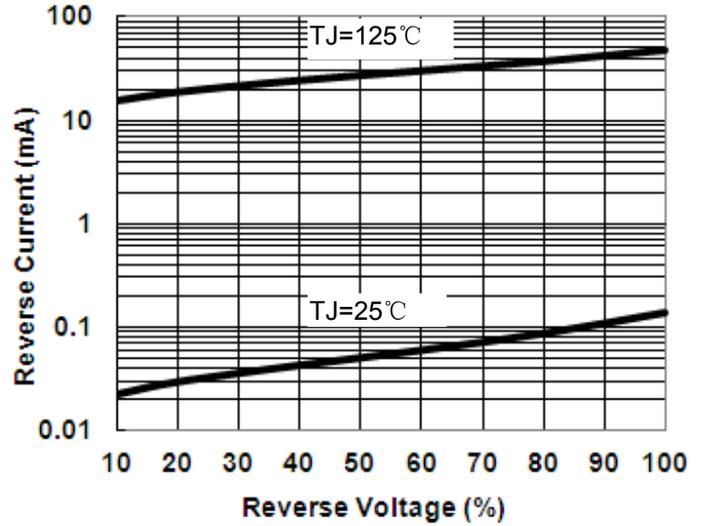


Fig.2-Typical Reverse Characteristics

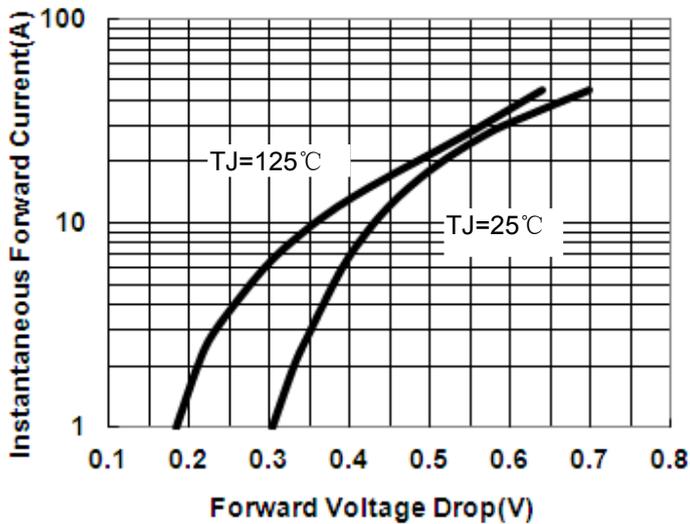


Fig.3-Typical Forward Voltage Characteristics

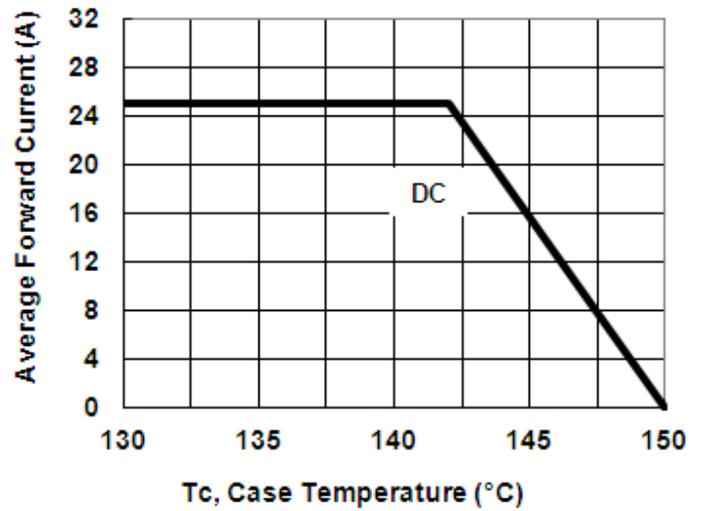


Fig.4-Forward Current Derating Curve



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