



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

# DUAL POWER SCHOTTKY RECTIFIERS

60A Pk, 45V

USD335C

USD345C

USD335CHR2

USD345CHR2

2

## FEATURES

- Very Low Forward Voltage
- Low Recovered Charge
- Rugged Package Design (TO-3)
- High Efficiency for Low Voltage Supplies
- 45V Blocking @ Rated  $T_{j,\max}$
- 50V Repetitive Surge Voltage
- Dual Schottky Rectifier in a Single Package

## ABSOLUTE MAXIMUM RATINGS (Total for USD300C Series)

Average Rectified Forward Current,  $I_0$  @  $T_c = 100^\circ\text{C}$  ..... 30A

## ABSOLUTE MAXIMUM RATINGS (Per Diode)

Working Peak Reverse Voltage  $V_{RWM}$  ..... 35V ..... 45V

DC Blocking Voltage,  $V_R$  ..... 35V ..... 45V

Peak Repetitive Surge Voltage,  $V_{RSM}$  @  $I_{FSM}$  ..... 42V ..... 54V

Average Rectified Forward Current,  $I_0$  ..... 30A in full wave configuration\*

Non-repetitive Peak Surge current (8.3 mS),  $I_{FSM}$  ..... 500A

Peak Reverse Transient Current,  $I_{RM}$  ..... 2A

Storage Temperature Range,  $T_{STG}$  .....  $-55^\circ\text{C}$  to  $+200^\circ\text{C}$

Peak Operating Junction Temperature,  $T_{j,\max}$  .....  $175^\circ\text{C}$

Thermal Resistance, Junction to Case,  $R_{\theta,JC}$  .....  $1.4^\circ\text{C}/\text{W}$

\* Each Anode Pin Limited to 18A Average.

Package Capability 30A Average.

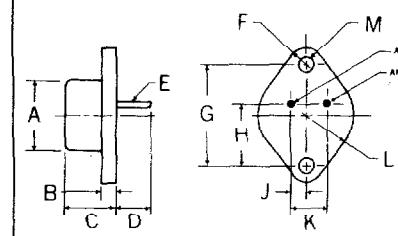
## ELECTRICAL CHARACTERISTICS ( $T_{CASE} = 25^\circ\text{C}$ )

Characteristic	Symbol	Limit	Units	Conditions
Maximum Instantaneous Reverse Current	$i_R$	10 50	mA mA	$T_c = 25^\circ\text{C}$ , $V_R = V_{RWM}$ $T_c = 125^\circ\text{C}$ Pulse Width = $400\mu\text{S}$ Duty Cycle = 1 percent
Maximum Instantaneous Forward Voltage	$V_F$	0.57 0.66 0.60	V V V	$i_F = 10\text{A}$ , $T_c = 25^\circ\text{C}$ $i_F = 20\text{A}$ , $T_c = 25^\circ\text{C}$ $i_F = 20\text{A}$ , $T_c = 125^\circ\text{C}$ Pulse Width = $300\mu\text{S}$ Duty Cycle = 1 percent
Capacitance	$C_t$	2000	pF	$V_R = 5.0\text{V}$
Voltage Rate of Change	$dv/dt$	1000	v/ $\mu\text{S}$	$V_R = V_{RWM}$

## MECHANICAL SPECIFICATIONS

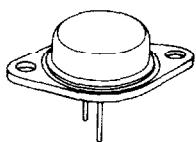
**NOTE:**  
Leads may be soldered to within  $1/16$ " of base provided temperature time exposure is less than  $200^\circ\text{C}$  for 10 seconds.

ANODE 2 → ANODE 1 → CASE (CATHODE)



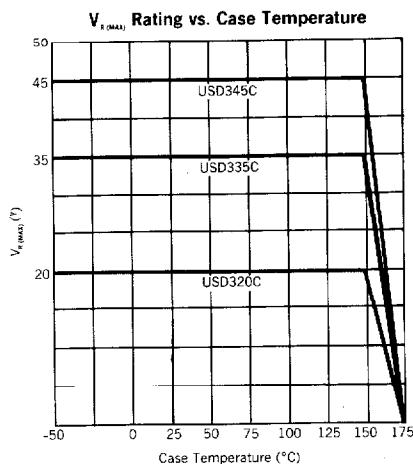
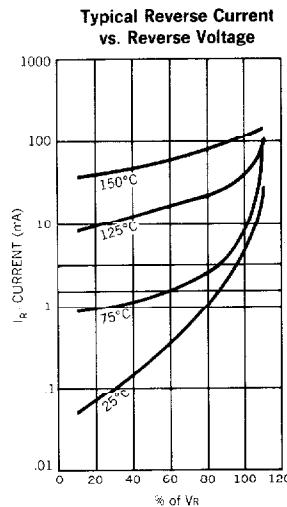
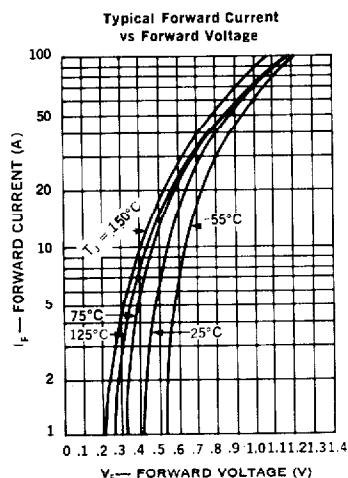
	ins.	mm.
A	.875 MAX.	22.23 MAX.
B	.135 MAX.	3.43 MAX.
C	.250-.450	6.35-11.43
D	.312 MIN.	7.92 MIN.
E	.038-.043 DIA.	0.97-1.09 DIA.
F	.188 MAX. RAD.	4.78 MAX. RAD.
G	1.177-1.197	29.90-30.40
H	.655-.675	16.64-17.15
J	.205-.225	5.21-5.72
K	.420-.440	10.67-11.18
L	.525 MAX. RAD.	13.34 MAX. RAD.
M	.151-.161 DIA.	3.84-4.09 DIA.

## TO-204AA (TO-3)



Notes: All metal surfaces tin plated.

USD335C USD345C  
USD335CHR2 USD345CHR2



#### OPTIONAL HIGH RELIABILITY (HR2) SCREENING

The following tests are performed on 100% of the devices specified USD335CHR2, 345CHR2.

SCREEN	MIL-STD-750 METHOD	CONDITIONS
1. High temperature	1032	24 hours @ $T_A = 150^\circ\text{C}$
2. Temperature Cycle	1051	$I_F$ , 20 Cycles, $-55$ to $+150^\circ\text{C}$ . No dwell required @ $25^\circ\text{C}$ , $t \geq 10$ min. @ extremes
3. Hermetic Seal a. Fine Leak b. Gross Leak	1071	H, Helium C, Liquid
4. Thermal Impedance		Sage Test
5. Interim Electrical Parameters	GO/NO GO	$V_F$ and $I_R$ @ $25^\circ\text{C}$
6. High Temperature Reverse Blocking	Similar to Method 1040	$\frac{1}{2}$ Sine Reverse, $t = 48$ Hours, $T_C = 125^\circ\text{C}$ , $VRW_M =$ rating, $F = 50\text{-}60$ Hz, $I_O = 0\text{A}$
7. Final Electrical Parameters	GO/NO GO	$V_F + I_R$ @ $25^\circ\text{C}$ PDA = 10% (Final Electricals)