DUAL POWER SCHOTTKY RECTIFIERS
60A Pk, 45V

USD320C
USD335C
USD345C
USD320CHR
USD335CHR
USD345CHR

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

DESCRIPTION
The USD320C series has two Schottky barriers arranged in a common cathode configuration and is ideally suited for a full wave output rectifier in low voltage switching power supplies.

ABSOLUTE MAXIMUM RATINGS (Total for USD300C Series)	**USD320C USD320CHR**	**USD335C USD335CHR**	**USD345C USD345CHR**
Average Rectified Forward Current, I_O @ T_C = 100°C	30A		

ABSOLUTE MAXIMUM RATINGS (Per Diode)			
Working Peak Reverse Voltage V_{RWM}	20V	35V	45V
DC Blocking Voltage, V_R	20V	35V	45V
Peak Repetitive Surge Voltage, V_{RSM} @ I_{RM}	24V	42V	54V
Average Rectified Forward Current, I_O	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°C to +200°C		
Peak Operating Junction Temperature, $T_{j\,max}$	175°C		
Thermal Resistance, Junction to Case, $R_{\theta JC}$	1.4°C/W		

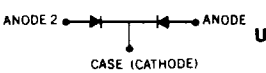
* Each Anode Pin Limited to 18A Average.
Package Capability 30A Average.

ELECTRICAL CHARACTERISTICS (T_{CASE} = 25°C)

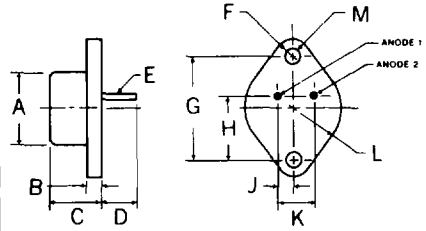
Characteristic	Symbol	Limit	Units	Conditions
Maximum Instantaneous Reverse Current	i_R	10 50	mA mA	T_C = 25°C, V_R = V_{RWM} T_C = 125°C Pulse Width = 400μS Duty Cycle = 1 percent
Maximum Instantaneous Forward Voltage	V_F	0.57 0.66 0.60	V V V	i_F = 10A, T_C = 25°C i_F = 20A, T_C = 25°C i_F = 20A, T_C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

MECHANICAL SPECIFICATIONS

NOTE:
Leads may be soldered to within 1/16" of base provided temperature-time exposure is less than 260°C for 10 seconds.

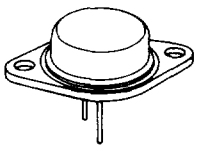


USD320C SERIES
USD320CHR SERIES



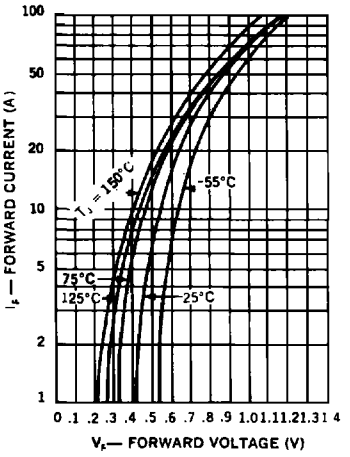
	ins.	mm.
A	.875 MAX.	22.23 MAX.
B	.135 MAX.	3.43 MAX.
C	.250-.450	6.35-11.43
D	.312 MIN.	7.92 MIN.
E	.038-.043 DIA.	0.97-1.09 DIA.
F	.188 MAX. RAD.	4.78 MAX. RAD.
G	1.177-1.197	29.90-30.40
H	.655-.675	16.64-17.15
J	.205-.225	5.21-5.72
K	.420-.440	10.67-11.18
L	.525 MAX. RAD.	13.34 MAX. RAD.
M	.151-.161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

TO-204AA (TO-3)

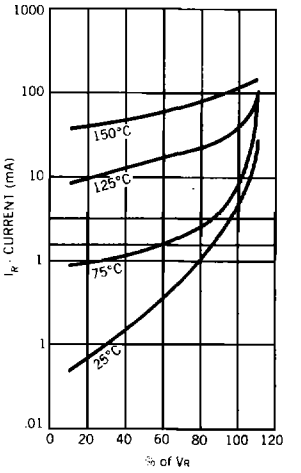


Notes: All metal surfaces tin plated.

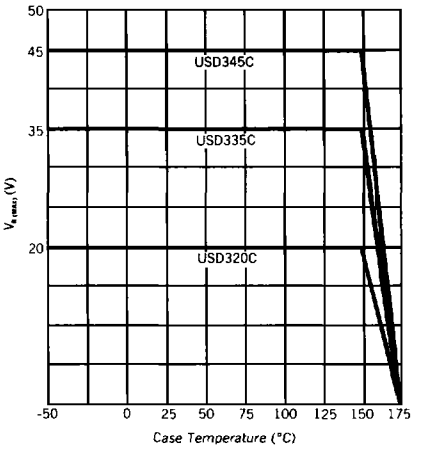
Typical Forward Current vs Forward Voltage



Typical Reverse Current vs. Reverse Voltage



$V_{R(MAX)}$ Rating vs. Case Temperature



OPTIONAL HIGH RELIABILITY (HR) SCREENING

The following tests are performed on 100% of the devices specified USD320CHR, 335CHR, 345CHR.

SCREEN	MIL-STD-750 METHOD	CONDITIONS
1. High Temperature Life (Stabilization Bake)	1032	24 Hours @ T_A = 175°C
2. Thermal Shock (Temperature Cycling)	1051	10 Cycles @ T_A = (−55°C to +150°C)
3. Hermetic Seal a. Fine b. Gross	1071	 G or H A, C or D
4. Reverse Energy Test	MIL-S-19500/553 Para 4.5.2	2 Amps
5. Interim Electrical Parameters		V_F and I_R @ 25°C
6. High Temperature Reverse Bias (HTRB)	1038	48 Hours @ T_C = 125°C V_R = 80% Rated
7. Final Electrical and *Delta Parameters*	Go/No Go	ΔI_R ± 100% ΔV_F ± 2%