

DUAL POWER SCHOTTKY RECTIFIERS

16A Av, up to 50V

USD735C
USD740C
USD745C
USD750C

2

FEATURES

- Very Low Forward Voltage
- Reverse Transient Capability
- Economical Convenient Plastic Package
- Mechanically Rugged
- 50V Working Voltage @ Rated $T_{j(max)}$

DESCRIPTION

The USD700C series of power Schottky rectifiers, in the industry standard TO-220 package, is specifically designed for operation in power switching circuits to frequencies in excess of 100 KHz. The series combines Schottky rectifiers in one convenient package; thus, simplifying installation, reducing heatsink requirements and component parts count.

ABSOLUTE MAXIMUM RATINGS (Per Diode Unless Otherwise Noted)

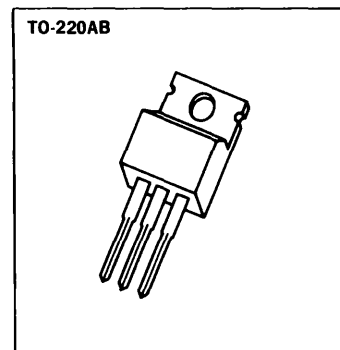
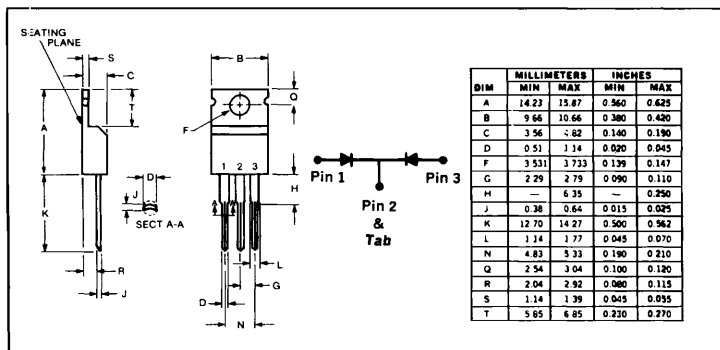
	USD735C	USD740C	USD745C	USD750C
Working Peak Reverse Voltage, V_{RWM}	35V	40V	45V	50V
DC Blocking Voltage, V_R	35V	40V	45V	50V
Peak Repetitive Surge Voltage, V_{RSM} @ I_{RM}	42V	48V	54V	60V
Average Rectified Forward Current @ $T_C = 115^\circ\text{C}$, I_o^*	16A			
Non repetitive Peak Surge Current (8.3ms), I_{FSM}	200A			
Peak Reverse Transient Current, I_{RM}	1A			
Operating Junction Temperature, T_j	150°C			
Storage Temperature Range, T_{stg}	-55°C to +150°C			
Thermal Resistance, Junction to Case, $R_{\theta JC}$	2.8°C/W			

*Full Wave Center-Tap; I_o (AV) 20KHz Square Wave

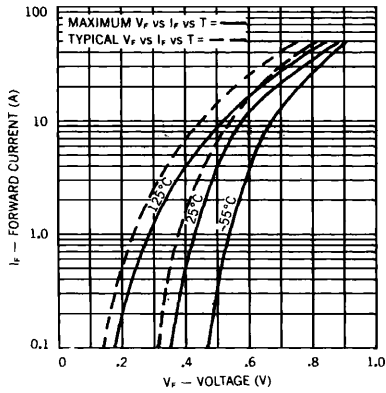
ELECTRICAL CHARACTERISTICS ($T_{CASE} = 25^\circ\text{C}$) (Per Diode)

CHARACTERISTIC	SYMBOL	LIMIT	UNITS	CONDITIONS
Maximum Instantaneous Reverse Current	i_R	5	mA	$V_R = V_{RWM}$ Pulse Width = 400 μ s Duty Cycle = 1 percent
Maximum Instantaneous Reverse Current	i_R	50	mA	$V_R = V_{RWM}$ Pulse Width = 400 μ s Duty Cycle = 1 percent $T_C = 125^\circ\text{C}$
Maximum Instantaneous Forward Voltage	V_F	0.55	V	$i_F = 8A$ $i_F = 16A$
		0.65	V	
Capacitance	C_t	0.48	pF	$T_C = 125^\circ\text{C}$
		0.60		
Capacitance	C_t	1000	pF	$V_R = 5V$
Voltage Rate of Change	dv/dt	1000	V/ μ s	$V_R = V_{RWM}$

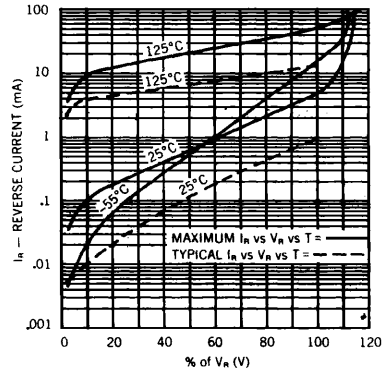
MECHANICAL SPECIFICATIONS



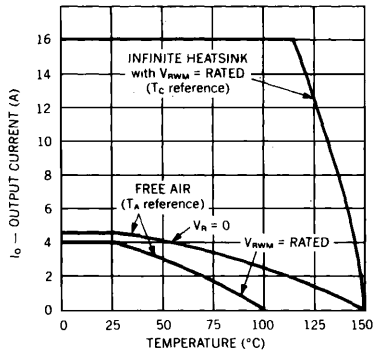
Forward Current vs. Forward Voltage



Reverse Current vs. Voltage



Average Output Current vs. Temperature



V_R Rating vs. Temperature

