

# Diodes



## ENGINEERING DATA - DIODE GENERAL DESCRIPTION FOR "BUTTON TYPE" DIODES

The Renard "button" diode is a silicon rectifier with a diffused junction in a compact, molded case. Designed for use in alternators.

### INSTALLATION PROCEDURES:

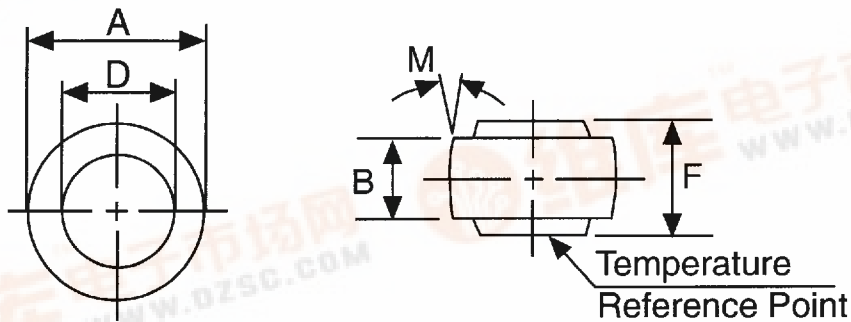
#### MOUNTING PROCEDURE - "BUTTON TYPE DIODE"

This unit is designed for soldering to a heat sink with the following notes of caution:

1. The diode's metal contacts should not be subjected to more than 250°C maximum for a period not to exceed three minutes.
2. Use only rosin flux solder for attaching heat sink or leads to diode.
3. Steel or aluminum heat sinks must have a plated/solderable surface.

### DIMENSIONS

SYM.	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	0.333	0.405	8.46	10.29
B	0.165	0.175	4.19	4.45
D	0.218	0.272	5.54	6.91
F	0.234	0.246	5.94	6.25
M	5°NOM		5°NOM	





## ELECTRICAL RATINGS OF STANDARD, MICRO & JUMBO BUTTON DIODE

**MAXIMUM RATINGS CHARACTERISTICS SYMBOL UNIT**

RENARD PART NUMBER		7601, 7610,7611 7612,7613	7620, 7626, 7627 7628, 7629	
Peak Repetitive Reverse voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	100		Volts
Non Repetitive Peak Reverse Voltage (Halfwave, single phase 60 HZ peak)	$V_{RSM}$	120		Volts
Average Rectified Forward Current (Single phase, resistive load 60 HZ $T_c$ 150° C)	$I_O$	25	50	Adc
Non Repetitive Peak Surge Current (surge applied @ rated load conditions, half wave, single phase, 60 HZ)	$I_{FSM}$	400 (for 1 cycle)		Amp
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +175		°C
Thermal Resistance, Junction to Case $R_{\theta JC}$ (Single Side Cooled)		1.0 Maximum		°C/ watt
Maximum Instantaneous Forward Voltage Drop $I_F$ 80 Amp, $T_c$ 25°C		1.18 Maximum		Vdc
Maximum Reverse Current (rated dc voltage) $T_c$ 25°C $T_c$ 100°C		100 500		Microamp

## ELECTRICAL RATINGS OF THE AVALANCHE BUTTON DIODE #7640

CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT
RENARD PART NUMBER	7647, 7648, 7649			
Reverse Current ( $V_R = 20$ Vdc, $T_c + 25^\circ\text{C}$ ) ( $V_R = 20$ Vdc, $T_c = 100^\circ\text{C}$ )	$I_R$	- -	50 500	$\mu\text{A}$ dc
Breakdown Voltage (1) "Avalanche" ( $I_R = 100$ mA dc, $T_c = 25^\circ\text{C}$ )	$V_{(BR)}$	24	32	Volts
(1) Pulse Test: Pulse width $\leq 300 \mu\text{s}$ , Duty Cycle $\leq 2.0\%$				
Average Rectified Forward Current (Single phase, resistive load 60 HZ $T_c$ 150°C)	$I_O$	50		Adc
Maximum Instantaneous Forward Voltage Drop $I_F$ 80 Amp, $T_c$ 25°C		1.3 Maximum		Vdc

