

**GLASS PASSIVATED SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 800 Volts CURRENT 16 Amperes**

**FEATURES**

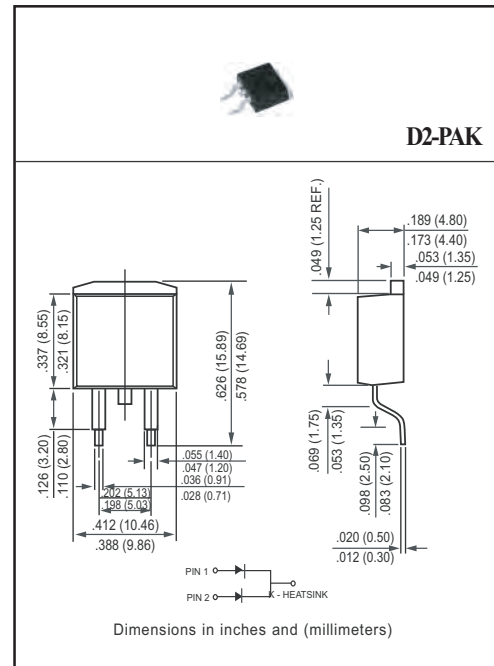
- \* Low power loss, high efficiency
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

- \* Case: D2-PAK molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 1.4 grams
- \* Polarity: As marked

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	RL1601CS	RL1602CS	RL1603CS	RL1604CS	RL1605CS	RL1606CS	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	Volts
Maximum Average Forward Rectified Current TC = 100°C (Note 1)	Io	16.0						Amps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	150						Amps
Typical Current Square Time	I <sup>2</sup> T	93.4						A <sup>2</sup> S
Typical Thermal Resistance	RθJC	3.0						°C/W
Typical Junction Capacitance (Note 2)	Cj	40						pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150						°C

**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	RL1601CS	RL1602CS	RL1603CS	RL1604CS	RL1605CS	RL1606CS	UNITS
Maximum Instantaneous Forward Voltage at 8.0A DC	VF	1.0						Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@Tc = 25°C	2						uAmps
	@Tc = 100°C	50						

- NOTES : 1. Case Temperature Measured at Metal Tab.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3. Suffix " A " = Common Anode.

# RATING AND CHARACTERISTIC CURVES( RL1601CS THRU RL1606CS )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

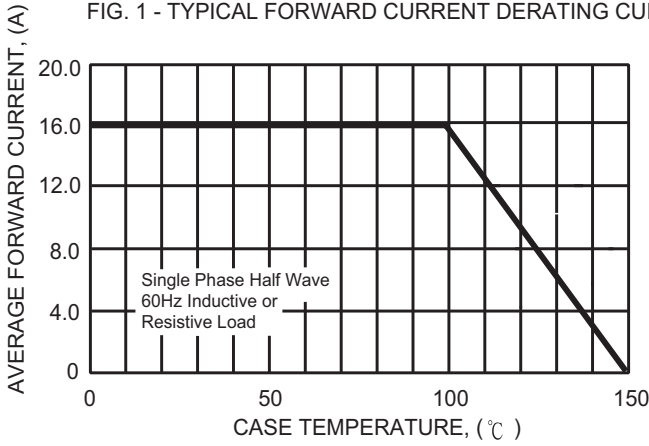


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

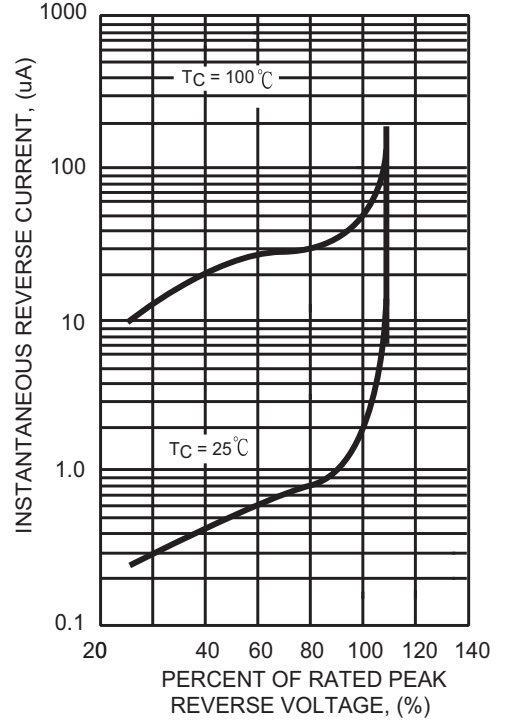


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

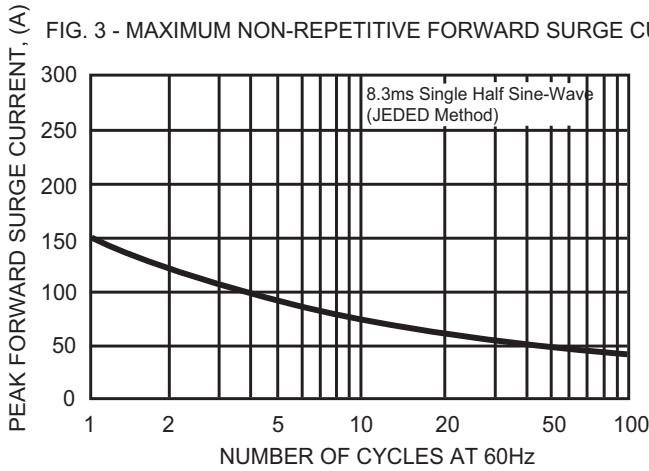


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

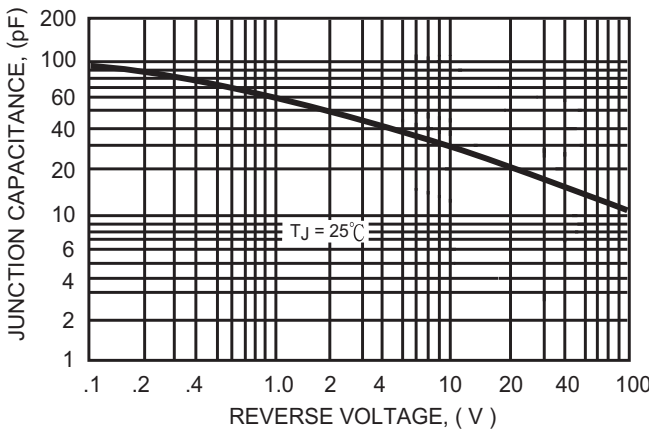
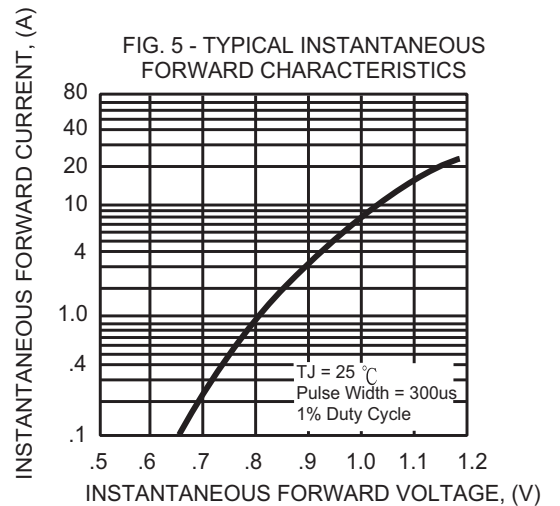


FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



# PACKAGING OF DIODE AND BRIDGE RECTIFIERS

## BULK PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
A-405	-B	1,000	194*84*21	415*220*255	50,000	15.64
BR-3/-6	-B	200	206*208*55	450*220*255	1,600	6.00 / 6.80
BR-8/-10	-B	200	236*236*50	497*251*282	2,000	12.24
BR-15/-25/-35(W)	-B	50	206*208*57	450*220*255	400	12.50 (14.40)
DO-15	-B	500	194*84*21	415*220*255	25,000	12.74
DO-201	-B	500	300*73*40	347*320*271	12,000	15.90
DO-41	-B	1,000	194*75*21	415*220*255	50,000	16.2
HVM	-B	200	165*214*52	353*226*290	2,000	---
HVP	-B	40	236*236*40	502*251*145	240	8.80
MB-15/-25/-35(W)	-B	50	206*208*57	450*220*255	400	13.60 (14.30)
MP-15/-25/-35(W)	-B	50	206*208*57	450*220*255	400	7.7 (8.26)
R-1/-3	-B	1000 / 500	192*75*21	415*220*255	50,000 / 25,000	11.74 / 16.17
R-6/R-7	-B	200	300*73*40	347*320*271	4,800	12.93 / 14.57
RB-15	-B	1,000	165*252*59	347*320*271	10,000	11.6
RBU	-B	450	240*239*35	502*251*126	2,700	13.00
RC-2	-B	600	165*252*59	347*320*271	6,000	9.4
RS-1	-B	600	240*239*35	497*255*162	4,800	9.264
RS-2L	-B	400	210*160*52	502*251*126	2,400	8.59
RS-4L	-B	300	230*162*52	502*251*126	1,800	11.3
RS-6/-8	-B	200	236*236*34	497*255*162	1,600	13.6 / 14.5
RS-1M	-B	600	240*239*35	497*255*162	4,800	8.62
RS-2M	-B	600	236*236*40	502*251*145	3,600	10.28
RS-4M/-10M	-B	600	236*236*40	497*251*100	2,400	11.09
RS-6/8/15/20/25M	-B	300	230*190*46	410*243*157	1,800	13.37
WOM	-B	600	165*252*59	347*320*271	6,000	11.0

## TUBE PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	WEIGHT(Kg)
BDB	-C	2,000	450*140*84	464*305*283	12,000	14.18
D2PAK	-C	2,000	550*140*92	572*308*120	4,000	10.20
DB-1	-C	2,500	450*140*84	464*305*283	15,000	14.30
DB-LS	-C	4,000	450*140*84	464*305*283	24,000	16.45
DB-S	-C	4,000	450*140*84	464*305*283	24,000	18.44
RBU	-C	1,000	490*135*110	510*293*131	2,000	13.62
RS-1M/-2M	-C	1,350	540*118*118	560*259*144	2,700	12.03
RS-4M/-10M	-C	900	540*118*118	560*259*144	1,800	12.82
RS-6/8/15/20/25M	-C	600	490*135*110	510*293*131	1,200	13.12
(I)TO-220/TO-220(A)	-C	2,000	550*140*92	572*308*120	4,000	11.80
TO-247	-C	900	550*140*92	572*308*120	1,800	7.60

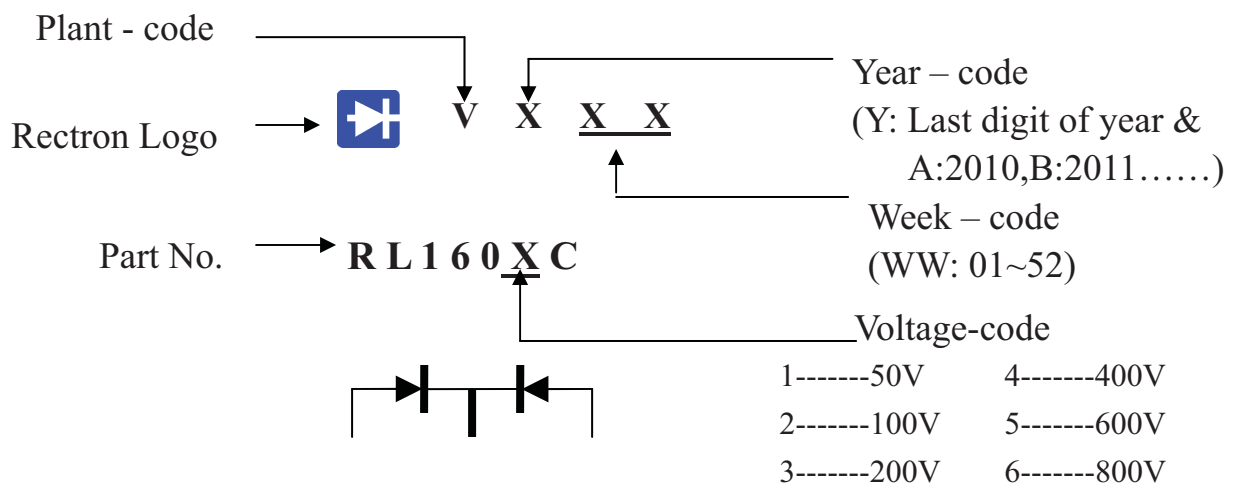


## Attachment information about RL160XC

### 1. Internal Circuit



### 2. Marking on the body



### 3. Items marked on the inner box and carton

#### 3.1 On the box (for -C)

**CUSTOMER**  
**TYPE**  
**LOT NO.**  
**QUANTITY**  
**Q.A.**  
**DATE**

#### 3.2 On the carton

**CUSTOMER**  
**TYPE**  
**QUANTITY**  
**LOT NO.**  
**REMARK**

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