

SCHOTTKY BARRIER RECTIFIER

REVERSE VOLTAGE – 120 Volts
FORWARD CURRENT – 15 Amperes

FEATURES

- Rating to 120V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

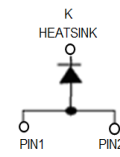
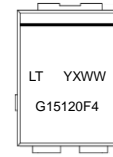
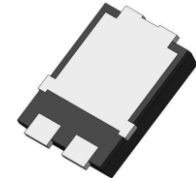
APPLICATION

- DC/DC converters
- Low voltage, high frequency inverters

MECHANICAL DATA

- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free"
- Polarity Indicator: As marked on body
- Marking Code: G15120F4
- Weight: 126mg (Approximate)

F4



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	120	V
Maximum DC blocking voltage	V_{DC}	120	V
Average rectified forward current	I_F	15	A
	@ $T_C = 110^\circ\text{C}$		
Peak forward surge 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	120	A
Operating and storage temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage (Note 4)	$I_F = 15\text{A}$	V_F	$T_J = 25^\circ\text{C}$	0.93
			$T_J = 125^\circ\text{C}$	0.88
Reverse leakage current	$V_R = 120\text{V}$	I_R	$T_J = 25^\circ\text{C}$	120
			$T_J = 125^\circ\text{C}$	27
Typical junction capacitance (Note 5)		C_j	550	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6)	R_{thJA}	20	°C/W
	R_{thJL}	6	
	R_{thJC}	3	

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us Pulse width, 2% duty cycle
5. Measured at 1.0MHz and reverse voltage of 4.0V DC.
6. Thermal resistance test is performed in accordance with JESD-51.

RATING AND CHARACTERISTIC CURVES

G15120F4

FIG.1- FORWARD CURRENT DERATING CURVE

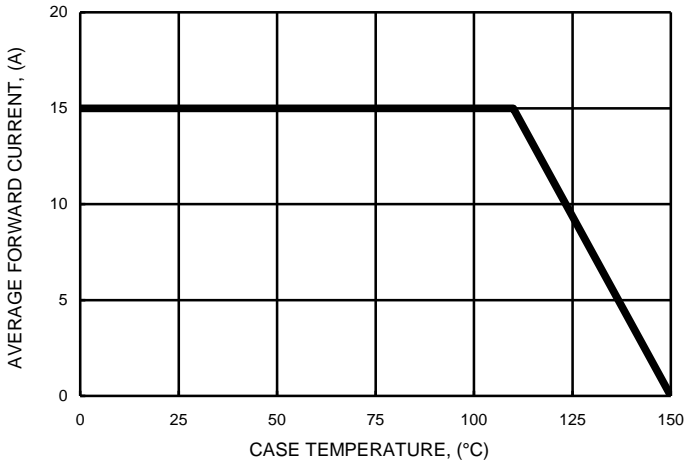


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

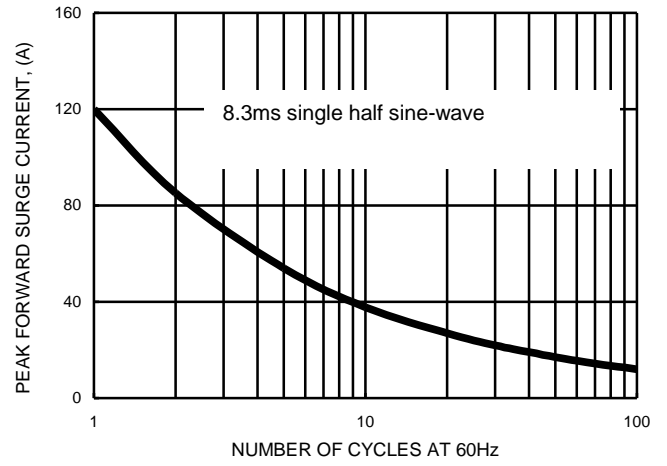


FIG.3- TYPICAL FORWARD CHARACTERISTICS

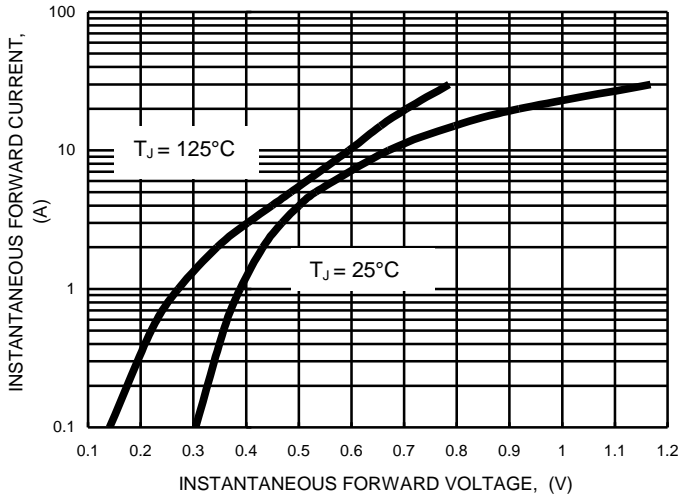


FIG.4- TYPICAL JUNCTION CAPACITANCE

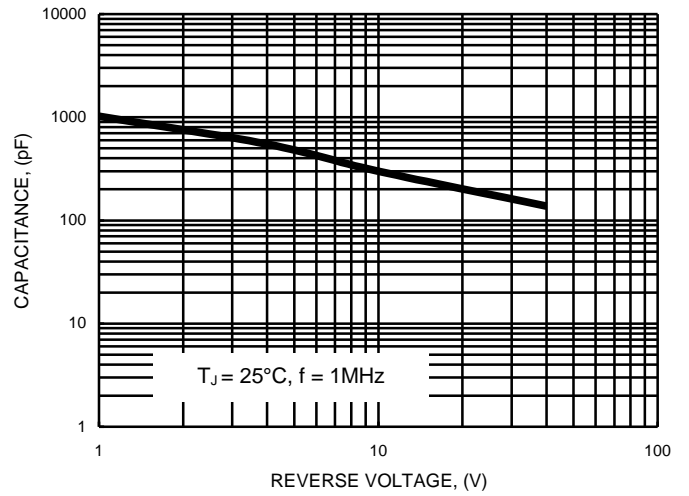
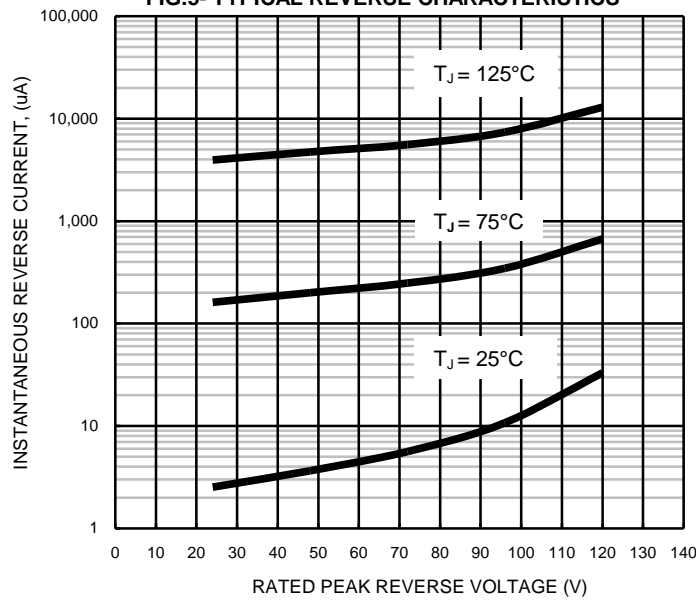
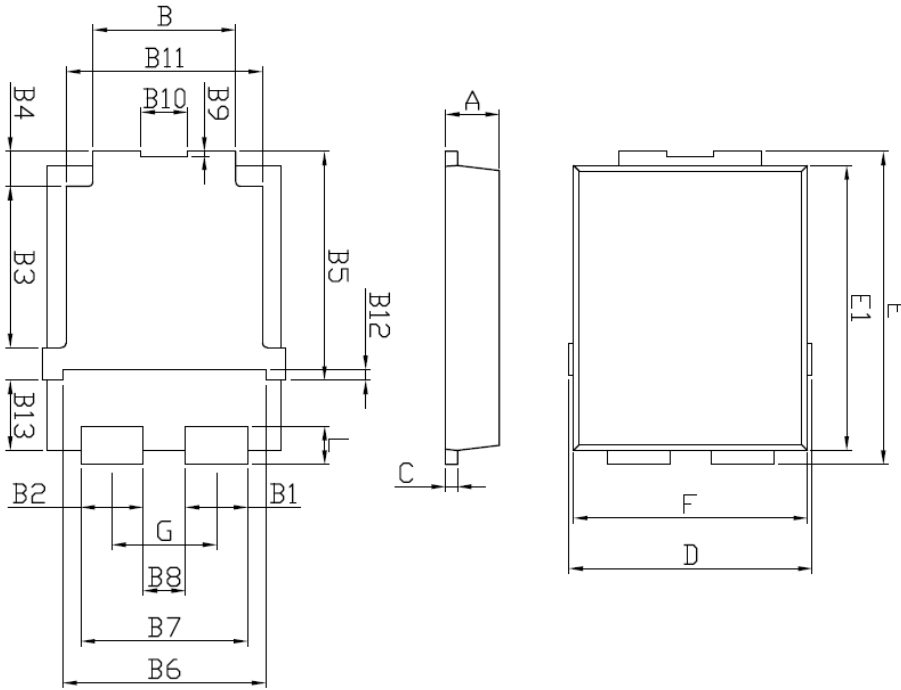


FIG.5- TYPICAL REVERSE CHARACTERISTICS



MECHANICAL INFORMATION
G15120F4

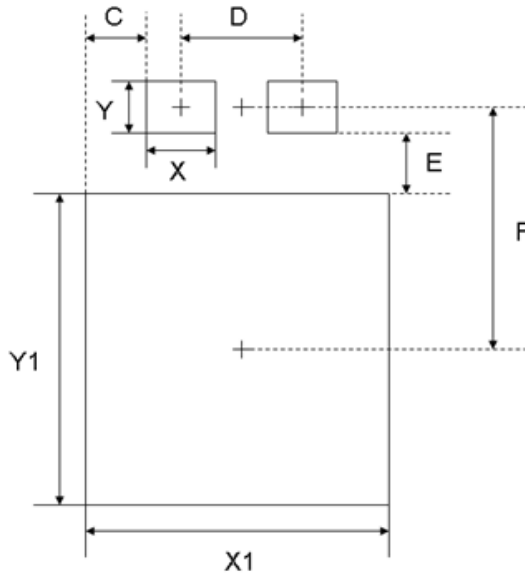
Package Dimensions:



F4			
DIM.	MIN.	TYP.	MAX
A	1.05	1.15	1.25
B	2.90	3.05	3.20
B1	1.20	1.34	1.50
B2	1.20	1.34	1.50
B3	3.30	3.45	3.60
B4	0.60	0.75	0.90
B5	4.75	4.90	5.05
B6	4.19	4.34	4.49
B7	3.42	3.58	3.72
B8	0.72	0.90	1.08
B9	0.02	0.10	0.20
B10	0.85	1.00	1.15
B11	4.05	4.20	4.35
B12	0.08	0.23	0.38
B13	1.30	1.50	1.70
C	0.15	0.25	0.35
D	5.05	5.20	5.35
E	6.55	6.70	6.85
E1	5.95	6.10	6.25
F	4.85	5.00	5.15
G	2.10	2.24	2.40
L	0.68	0.82	1.00

All dimension in millimeter

Soldering Pad Layout :

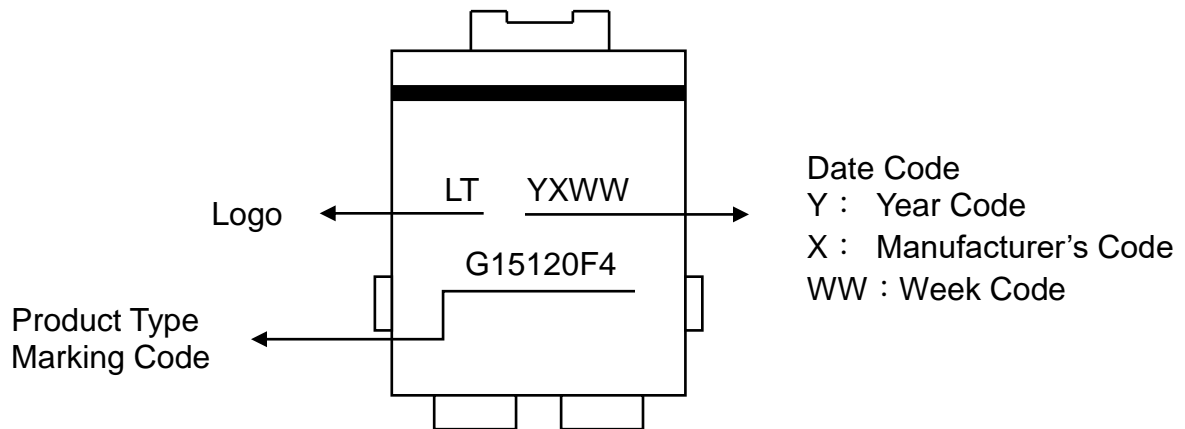


Dim	Millimeters	Inches
C	0.75	0.030
D	2.24	0.088
E	0.45	0.018
F	3.80	0.150
X	1.73	0.068
X1	5.50	0.217
Y	1.43	0.056
Y1	5.30	0.209

Ordering Information:

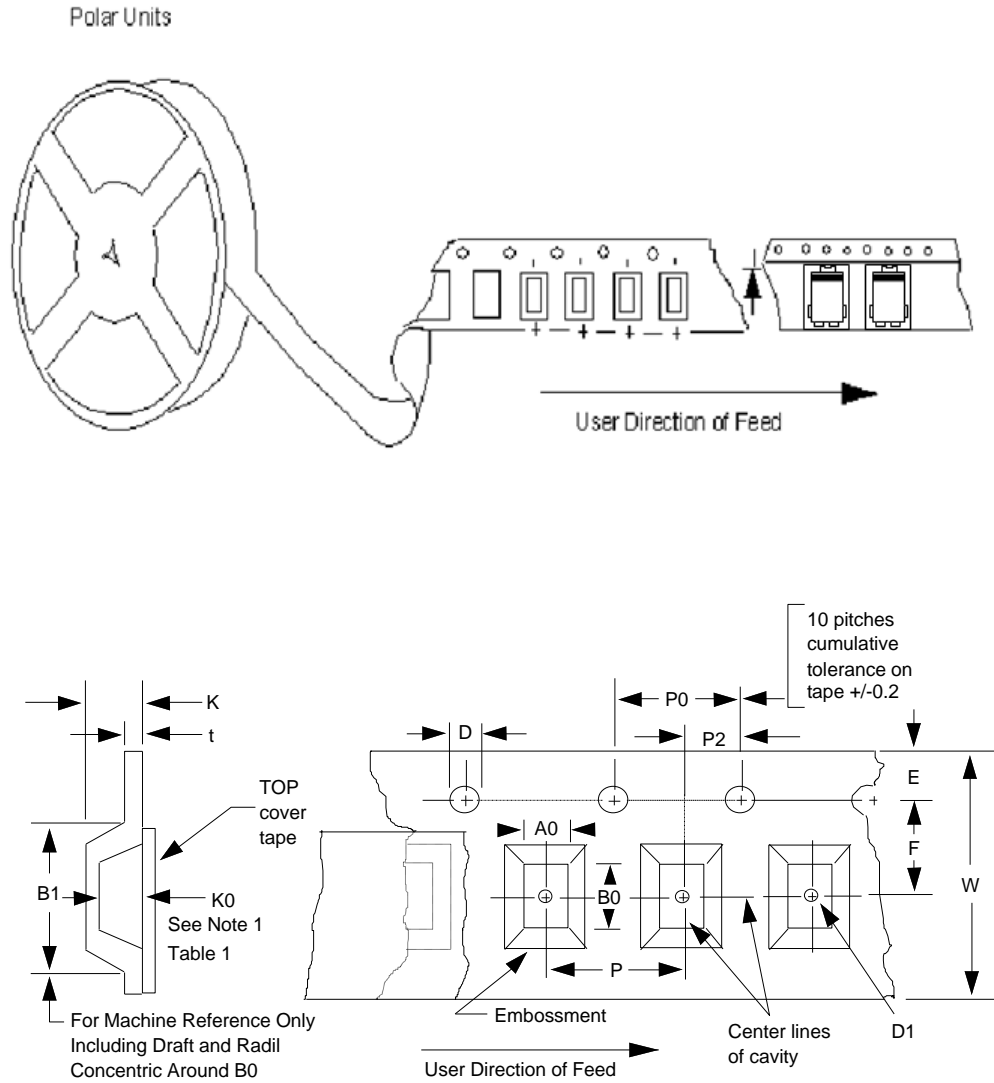
Part Number	Package	Packing	
		Qty.	Carrier
G15120F4	F4	4000 pcs	Tape & Reel

Marking Information:



TAPE AND REEL INFORMATION
G15120F4

Embossed Carrier Dimensions:



UNIT: mm

TAPE SIZE	D	E	P0	t (MAX)	A0	B0	K0
16mm	1.55+/-0.05	1.75+/-0.10	4.0+/-0.10	0.35	5.5+/-0.1	6.95+/-0.1	1.4+/-0.1
	B1 (MAX)	D1 (MIN)	F	K (MAX)	P2	W	P
	7.05	1.5	7.5+/-0.1	1.75	2.0+/-0.1	16.0+/-0.30	8.0+/-0.1

PACKAGING INFORMATION**G15120F4****Packaging Information:**

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
G15120F4	4000	13	4000	48K

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