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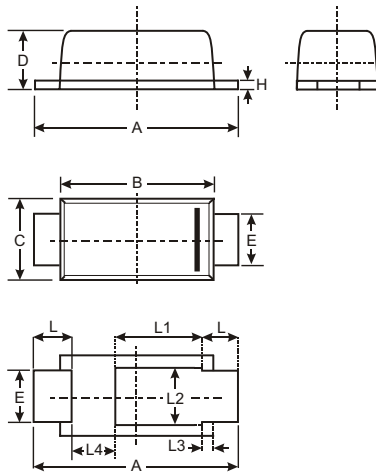
Jameco Part Number 1540121

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- **Lead Free Finish, RoHS Compliant (Note 5)**

Mechanical Data

- Case: PowerDI™ 123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Polarity: Cathode Band
- Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking: Date Code & Type Code, See Page 3
- Type Code: F04
- Ordering Information: See Page 3
- Weight: 0.01 grams (approx.)



PowerDI™123			
Dim	Min	Max	Typ
A	3.50	3.90	3.70
B	2.60	3.00	2.80
C	1.63	1.93	1.78
D	0.93	1.00	0.98
E	0.85	1.25	1.00
H	0.15	0.25	0.20
L	0.45	0.85	0.65
L1	—	—	1.35
L2	—	—	1.10
L3	—	—	0.20
L4	0.90	1.30	1.05
All Dimensions in mm			

Maximum Ratings @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	28	V
Average Forward Current @ T _T = 119°C	I _{F(AV)}	1.1	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	40	A
Power Dissipation (Note 1)	P _D	1.67	W
Power Dissipation (Note 2)	P _D	556	mW
Thermal Resistance Junction to Ambient (Note 1)	R _{θJA}	60	°C/W
Thermal Resistance Junction to Ambient (Note 2)	R _{θJA}	180	°C/W
Thermal Resistance Junction to Soldering (Note 3)	R _{θJS}	10	°C/W
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	V _{(BR)R}	40	—	—	V	I _R = 20μA
Forward Voltage (Note 4)	V _F	—	0.45 0.53	0.51 —	V	I _F = 0.5A I _F = 1.1A
Leakage Current (Note 4)	I _R	—	—	20 6.0	μA mA	V _R = 40V, T _A = 25°C V _R = 40V, T _A = 100°C
Total Capacitance	C _T	—	28	—	pF	V _R = 10V, f = 1.0MHz

- Notes:
1. Part mounted on 50.8mm X 50.8mm GETEK board with 25.4mm X 25.4mm copper pad, 25% anode, 75% cathode.
 2. Part mounted on FR-4 board with 1.8mm X 2.5mm cathode and 1.8mm X 1.2mm anode, 1 oz. copper pads.
 3. Theoretical R_{θJS} calculated from the top center of the die straight down to the PCB/cathode tab solder junction.
 4. Short duration pulse test to minimize self-heating effect.
 5. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

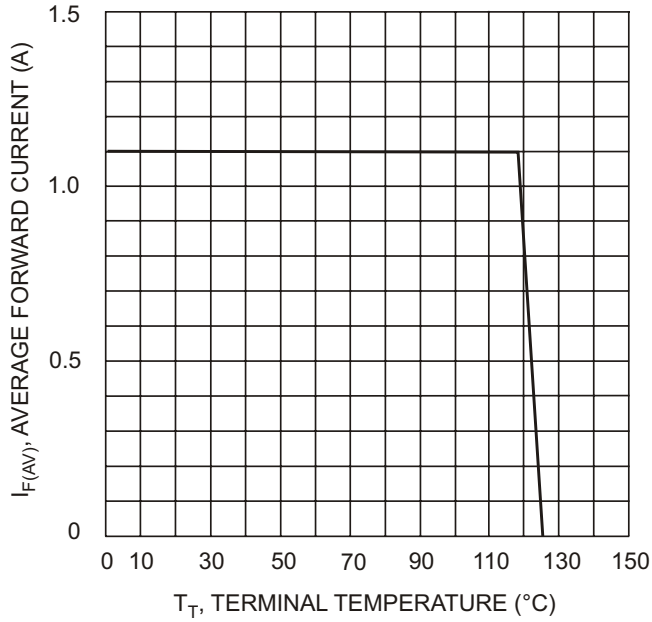


Fig. 1, Forward Current Derating Curve

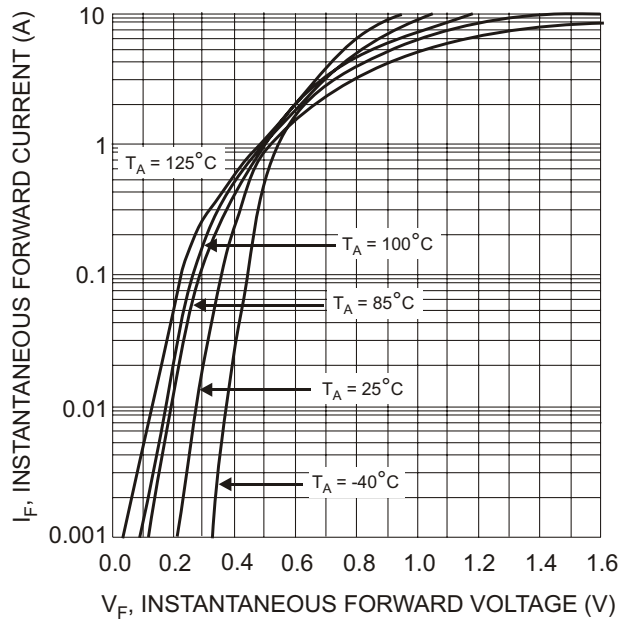


Fig. 2, Typical Forward Characteristics

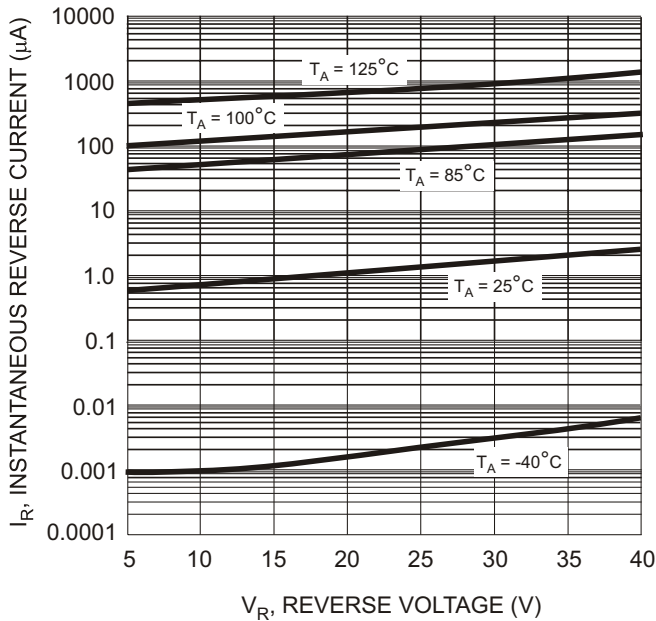


Fig. 3, Typical Pulsed Reverse Characteristics

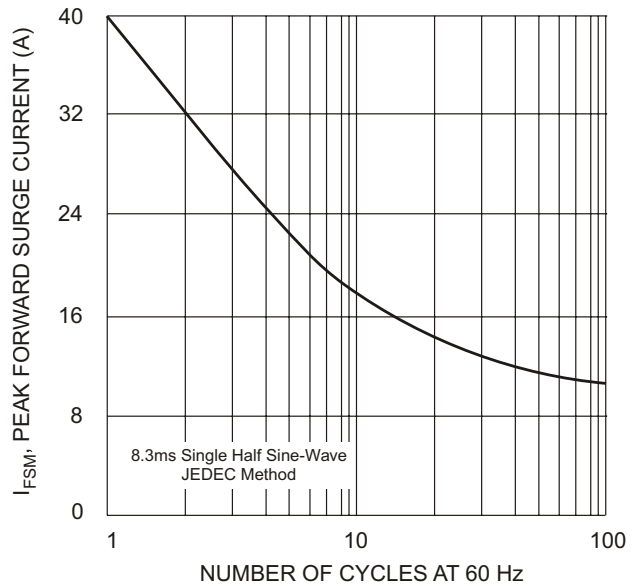


Fig. 4, Maximum Non-Repetitive Peak Forward Surge Current

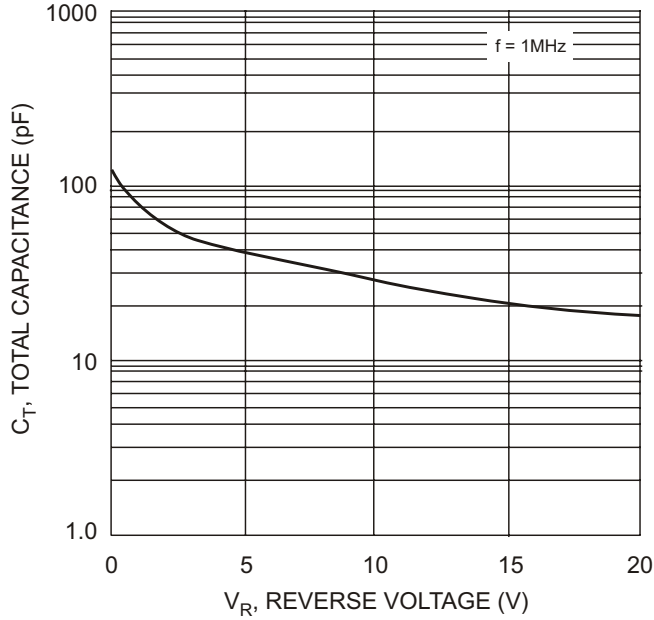


Fig. 5, Typical Total Capacitance vs Reverse Voltage

Ordering Information (Note 6)

Device	Packaging	Shipping
DFLS140-7	PowerDI™ 123	3000/Tape & Reel

Notes: 6. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



F04 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: P = 2003)
 M = Month (ex: 9 = September)

Date Code Key

Year	2003	2004	2005	2006	2007	2008	2009
Code	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D