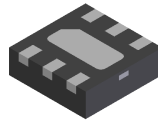


**SIX ELEMENT COMMON - CATHODE SCHOTTKY ARRAY**
**Features**

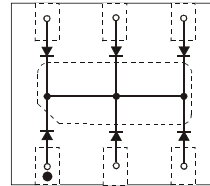
- Low Forward Voltage Drop
- Fast Switching
- Very High Density (Six diode Elements in a sub-miniature Package)
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3)**

**Mechanical Data**

- Case: DFN1616-6
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (NiPdAu Finish annealed over Copper leadframe).
- Polarity: Pin 1 Dot and Center Pad notch, See diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)



Top View



Device Schematic

**Maximum Ratings** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
Forward Continuous Current	$I_{FM}$	200	mA
Non-Repetitive Peak Forward Surge Current @ $t < 1.0\text{s}$	$I_{FSM}$	625	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (total package)	$P_D$	250	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	400	$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +125	$^\circ\text{C}$

**Electrical Characteristics** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	30	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	—	260	300	mV	$I_F = 0.1\text{mA}$
			—	360		$I_F = 1.0\text{mA}$
			—	460		$I_F = 10\text{mA}$
			525	570		$I_F = 30\text{mA}$
Reverse Current (Note 1)	$I_R$	—	25	125	nA	$V_R = 1\text{V}$
			30	150	nA	$V_R = 2\text{V}$
			35	500	nA	$V_R = 5\text{V}$
			100	700	nA	$V_R = 30\text{V}$
Reverse Recovery Time	$t_{rr}$	—	—	5.0	ns	$I_F = I_R = 10\text{mA}$ , $I_{rr} = 0.1 \times I_R$ , $R_L = 100\Omega$

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
  2. No purposefully added lead.
  3. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).

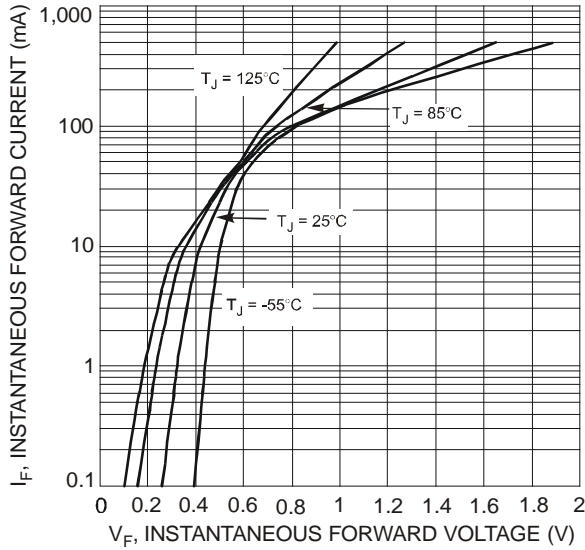


Fig. 1 Typical Forward Characteristics

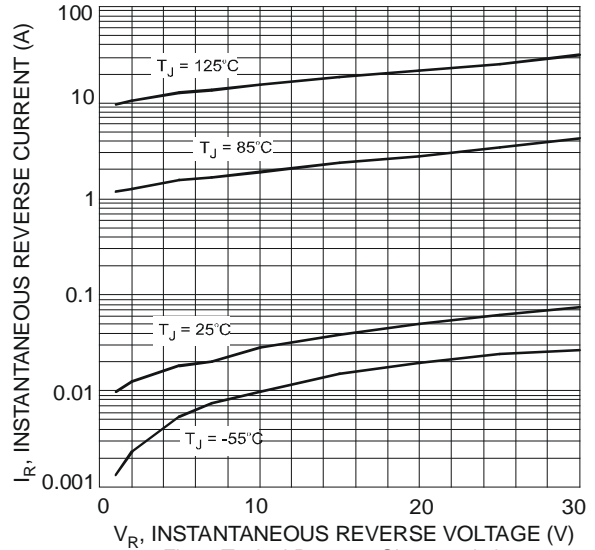


Fig. 2 Typical Reverse Characteristics

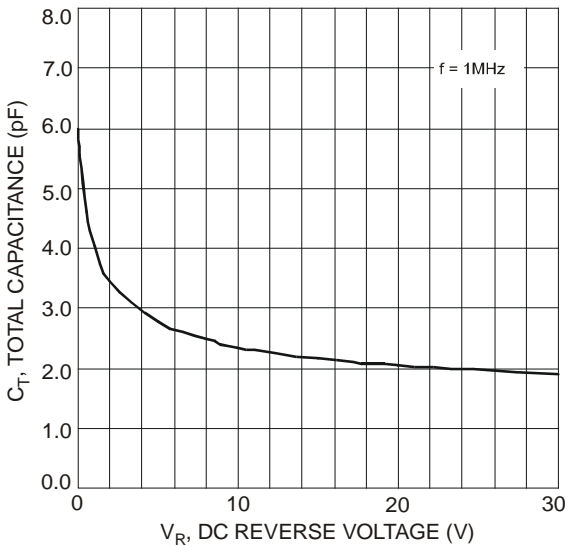


Fig. 3 Total Capacitance vs. Reverse Voltage

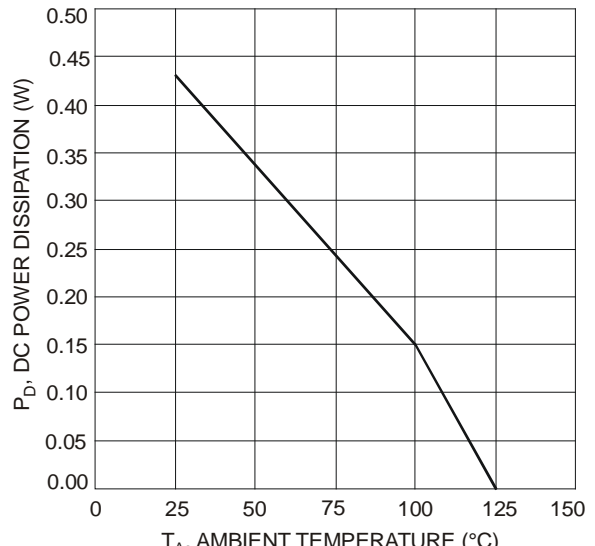


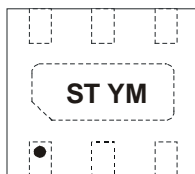
Fig. 4 Power Dissipation Derating

**Ordering Information** (Note 4)

Part Number	Case	Packaging
SDM6CC-7	DFN1616-6	3000/Tape & Reel

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



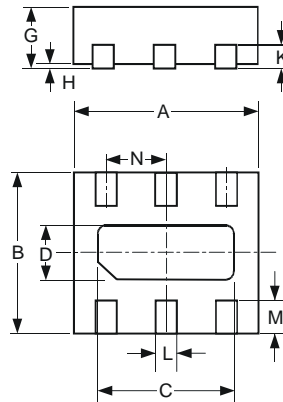
ST = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: T = 2006  
 M = Month ex: 9 = September

Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	T	U	V	W	X	Y	Z	A	B	C

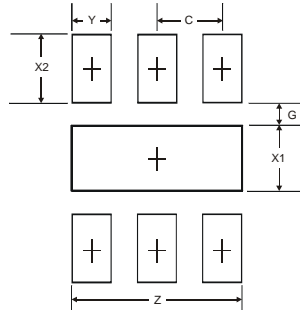
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Package Outline Dimensions**



DFN1616-6			
Dim	Min	Max	Typ
A	1.55	1.675	1.60
B	1.55	1.675	1.60
C	1.10	1.30	1.20
D	0.30	0.50	0.40
G	0.545	0.605	0.575
H	0	0.05	0.02
K	—	—	0.13
L	0.20	0.30	0.25
M	0.275	0.375	0.325
N	—	—	0.50
All Dimensions in mm			

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	1.3
G	0.175
X1	0.50
X2	0.525
Y	0.30
C	0.50

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