

5082-2835

General purpose Schottky diode

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Description

Lifecycle status: **Active**

Features

The 5082-2835 is a passivated Schottky diode in a low cost glass package. It is optimised for low turn-on voltage. This part is Ideally suited for UHF mixing needs of the CATV market. $V_{br}=8V$. $V_f=340mV$. $C_t=1pF$.

1N5711, 1N5712, 5082-2800 Series

Schottky Barrier Diodes for General Purpose Applications



Data Sheet

Description/Applications

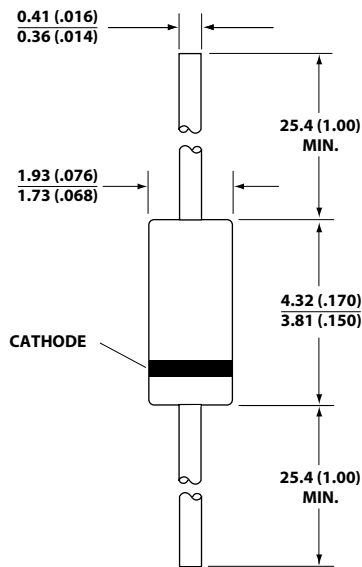
The 1N5711, 1N5712, 5082-2800/10/11 are passivated Schottky barrier diodes which use a patented "guard ring" design to achieve a high breakdown voltage. Packaged in a low cost glass package, they are well suited for high level detecting, mixing, switching, gating, log or A-D converting, video detecting, frequency discriminating, sampling, and wave shaping.

The 5082-2835 is a passivated Schottky diode in a low cost glass package. It is optimized for low turn-on voltage. The 5082-2835 is particularly well suited for the UHF mixing needs of the CATV marketplace.

Features

- Low Turn-On Voltage As Low as 0.34 V at 1 mA
- Pico Second Switching Speed
- High Breakdown Voltage Up to 70 V
- Matched Characteristics Available

Outline 15



DIMENSIONS IN MILLIMETERS AND (INCHES).

Maximum Ratings

Junction Operating and Storage Temperature Range

1N5711, 1N5712, 5082-2800/10/11 -65°C to +200°C

5082-2835 -60°C to +150°C

DC Power Dissipation

(Measured in an infinite heat sink at $T_{CASE} = 25^{\circ}C$)

Derate linearly to zero at maximum rated temp.

1N5711, 1N5712, 5082-2800/10/11 250 mW

5082-2835 150 mW

Peak Inverse Voltage V_{BR}

Package Characteristics

Outline 15

Lead Material	Dumet
Lead Finish	95-5% Tin-Lead
Max. Soldering Temperature	260°C for 5 sec
Min. Lead Strength	4 pounds pull
Typical Package Inductance	
1N5711, 1N5712:.....	2.0 nH
2800 Series:.....	2.0 nH
Typical Package Capacitance	
1N5711, 1N5712:.....	0.2 pF
2800 Series:.....	0.2 pF

The leads on the Outline 15 package should be restricted so that the bend starts at least 1/16 inch from the glass body. Outline 15 diodes are available on tape and reel. The tape and reel specification is patterned after RS-296-D.

Electrical Specifications at $T_A = 25^\circ\text{C}$

General Purpose Diodes

Part Number	Package Outline	Min. Breakdown Voltage	Max. Forward Voltage	$V_F = 1\text{ V Max. at Forward Current}$	Max. Reverse Leakage Current		Max. Capacitance
		$V_{BR} (V)$	$V_F (mV)$	$I_F (mA)$	$I_R (nA) \text{ at } V_R (V)$		$C_T (pF)$
5082-2800	15	70	410	15	200	50	2.0
1N5711	15	70	410	15	200	50	2.0
5082-2810	15	20	410	35	100	15	1.2
1N5712	15	20	550	35	150	16	1.2
5082-2811	15	15	410	20	100	8	1.2
5082-2835	15	8*	340	10*	100	1	1.0
Test Conditions		$I_R = 10 \mu A$ $*I_R = 100 \mu A$	$I_F = 1\text{ mA}$	$*V_F = 0.45\text{ V}$			$V_R = 0\text{ V}$ $f = 1.0\text{ MHz}$

Note: Effective Carrier Lifetime (τ) for all these diodes is 100 ps maximum measured with Krakauer method at 5 mA except for 5082-2835 which is measured at 20 mA.

Matched Pairs and Quads

Basic Part Number 5082-	Matched Pair Unconnected	Matched Quad Unconnected	Batch Matched ^[1]	Test Conditions
2800	5082-2804 $\Delta V_F = 20 \text{ mV}$	5082-2805 $\Delta V_F = 20 \text{ mV}$		ΔV_F at $I_F = 0.5, 5 \text{ mA}$ * $I_F = 10 \text{ mA}$ ΔC_O at $f = 1.0 \text{ MHz}$
2811			5082-2826 $\Delta V_F = 10 \text{ mV}$ $\Delta C_O = 0.1 \text{ pF}$	ΔV_F at $I_F = 10 \text{ mA}$ ΔC_O at $f = 1.0 \text{ MHz}$
2835			5082-2080 $\Delta V_F = 10 \text{ mV}$ $\Delta C_O = 0.1 \text{ pF}$	ΔV_F at $I_F = 10 \text{ mA}$ ΔC_O at $f = 1.0 \text{ MHz}$

Note:

1. Batch matched devices have a minimum batch size of 50 devices.

SPICE Parameters

Parameter	Units	5082-2800	5082-2810	5082-2811	5082-2835
B_V	V	75	25	18	9
C_{J0}	pF	1.6	0.8	1.0	0.7
E_G	eV	0.69	0.69	0.69	0.69
I_{BV}	A	$10E-5$	$10E-5$	$10E-5$	$10E-5$
I_S	A	$2.2 \times 10E^{-9}$	$1.1 \times 10E^{-9}$	$0.3 \times 10E^{-8}$	$2.2 \times 10E^{-8}$
N		1.08	1.08	1.08	1.08
R_S	Ω	25	10	10	5
P_B	V	0.6	0.6	0.6	0.56
P_T		2	2	2	2
M		0.5	0.5	0.5	0.5

Diode Package Marking

1N5xxx 5082-xxxx

would be marked:

1Nx xx

xxx xx

YWW YWW

where xxxx are the last four digits of the 1Nxxxx or the 5082-xxxx part number.

Y is the last digit of the calendar year. WW is the work week of manufacture.

Examples of diodes manufactured during workweek 45 of 1999:

1N5712 5082-3080

would be marked:

1N5 30

712 80

945 945

Part Number Ordering Information

Part Number	No. of devices	Container
5082-28xx#T25/1N57xx#T25	2500	Tape & Reel
5082-28xx#T50/ 1N57xx#T50	5000	Tape & Reel
5082-28xx/ 1N57xx	100	Antistatic bag