

CMS-2803

Microwave Mixer Diode

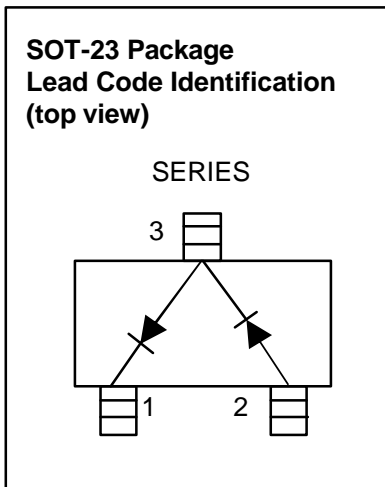
Description:

SiliconApps CMS-2803 Schottky diode was designed applications ranging from 10-14 GHz. They are optimized for use at X/Ku bands and are ideal for downconverter applications. It is available in plastic SOT-23 standard package configurations.

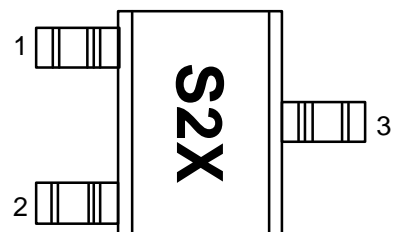
At SiliconApps, our commitment to quality components gives our customers a reliable source of RF products. Manufacturing techniques assure that when two diodes are mounted into a single package they are taken from adjacent sites on the wafer. The various package configurations available provide a low cost solution to a wide variety of design problems.

Features:

- Low Capacitance 0.20pF
- Low Conversion Loss
- Low RD
- Optimized for applications ranging 10-14 GHz
- Low Cost SM Plastic Package



Pin Connections and Package Marking



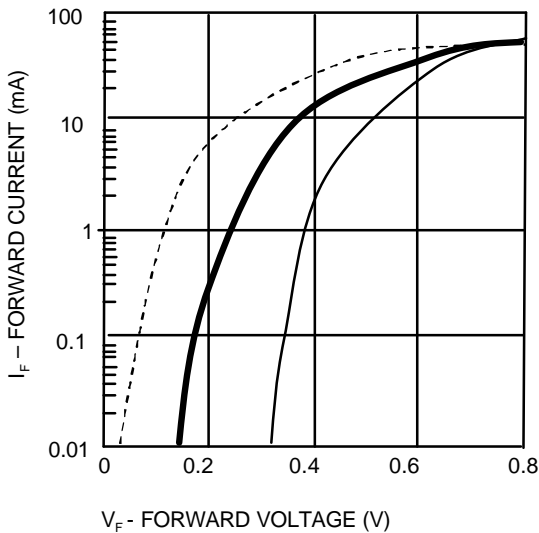
Notes:

1. Package marking provides orientation and identification
2. See "Electrical Specifications" for appropriate package marking

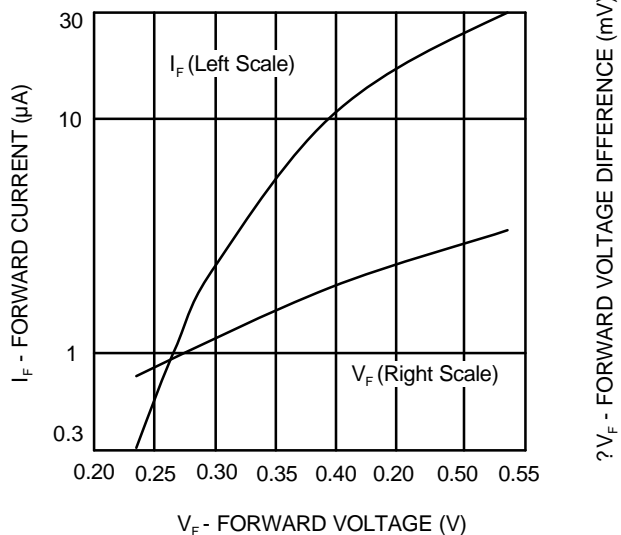
Electrical Specifications, $T_C = +25^\circ\text{C}$, Single Diode

Part Number CMS-	Package Marking Code	Configuration	Forward Voltage V_F (mV)		Typical Capacitance C_T (pF)
			250 Min	350 Max	
2803	S3Z	Series Pair	250 Min	350 Max	0.20
Test Conditions			$I_F = 0.75 \text{ mA}$		$V_R = 0 \text{ V}, f = 1 \text{ MHz}$

Typical Parameters, Single Diode



Graph 1: Typical Forward Current vs. Forward Voltage at Three Temperatures



Graph 2: Typical VF Match.

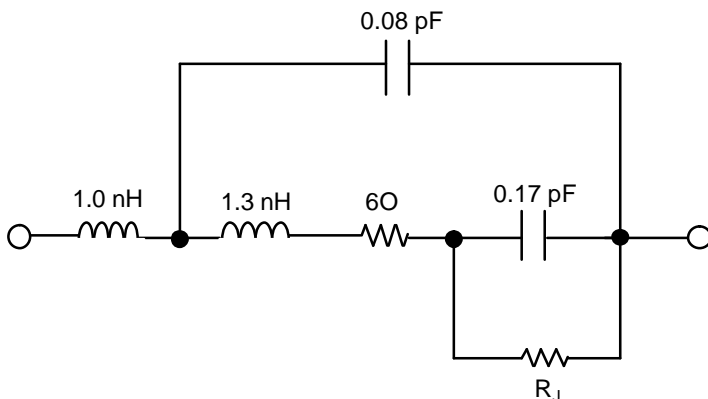
Absolute Maximum Ratings, Measured at = +25°C

Symbol	Parameter	Unit	Min	Max
P_{IV}	Peak Inverse Voltage	V	—	4
T_J	Junction Temperature	°C	—	+150
T_{STG}	Storage Temperature	°C	-65	+150
T_{OP}	Operating Temperature	°C	-65	+150
P_T	Total Device Dissipation	mW	—	75

RF Electrical Parameters, Measured at = +25°C

Symbol	Parameter	Units	Typical
L_C	Conversion Loss at 12 GHz	dB	6.3
Z_{IF}	IF Impedance	Ω	150
SWR	SWR at 12 GHz		1.2

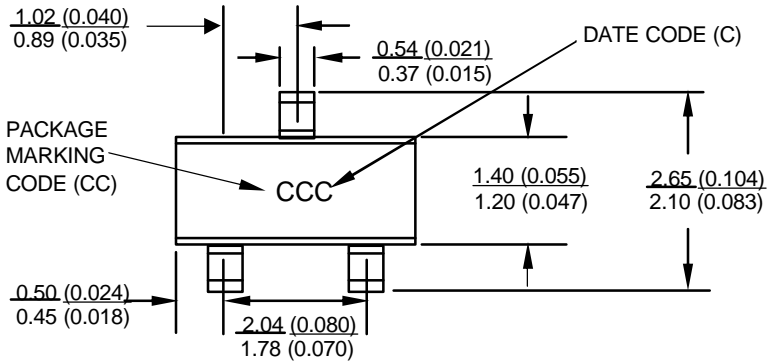
Equivalent Linear Circuit Model



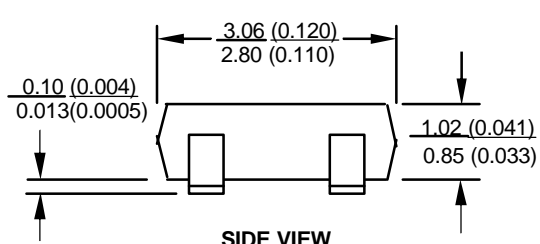
* R_J @1mA = 263 and @2.5mA = 142

Package Dimensions

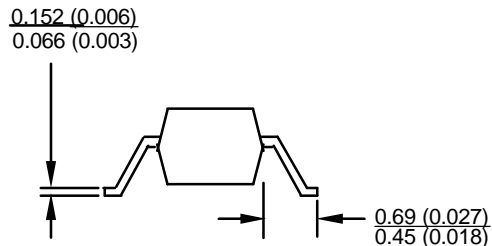
Outline 23 (SOT-23)



TOP VIEW



SIDE VIEW



END VIEW

DIMENSIONS ARE IN MILLIMETERS (INCHES)

Cross Reference Guide

SiliconApps Part Number	Agilent Part Number
CMS2803	HSMS8202

Part Number Ordering Information

PART NUMBER	NO. OF DEVICES	CONTAINER
CMS-2803-TR2	10,000	13" Reel
CMS-2803-TR1	2500	7" Reel
CMS-2803-BLK	100	Antistatic bag

www.siliconapps.com

Revised 07/14/04

Data subject to change

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