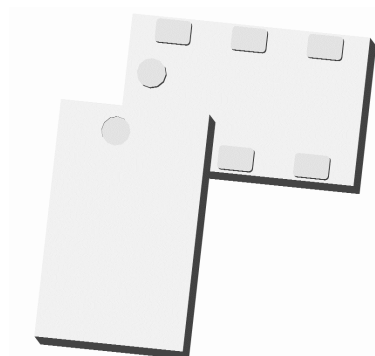


Xinger[®]

**Ultra Low Profile 0805 Power Divider
3 Way 50Ω to 50Ω**



Description:

The PD2833J5050S3HF is a low profile, sub-miniature Wilkinson power divider in an easy to use surface mount package and is ideal for high volume manufacturing while delivering higher performances than traditional printed and lumped element solutions. It is designed particularly for LTE/4G/5G wireless communication applications. The PD2833J5050S3HF is matched to 50 Ω and has a height profile of 0.81 mm. Three external resistors are required for operation. Components are available on tape and reel for high volume manufacturing pick and place.

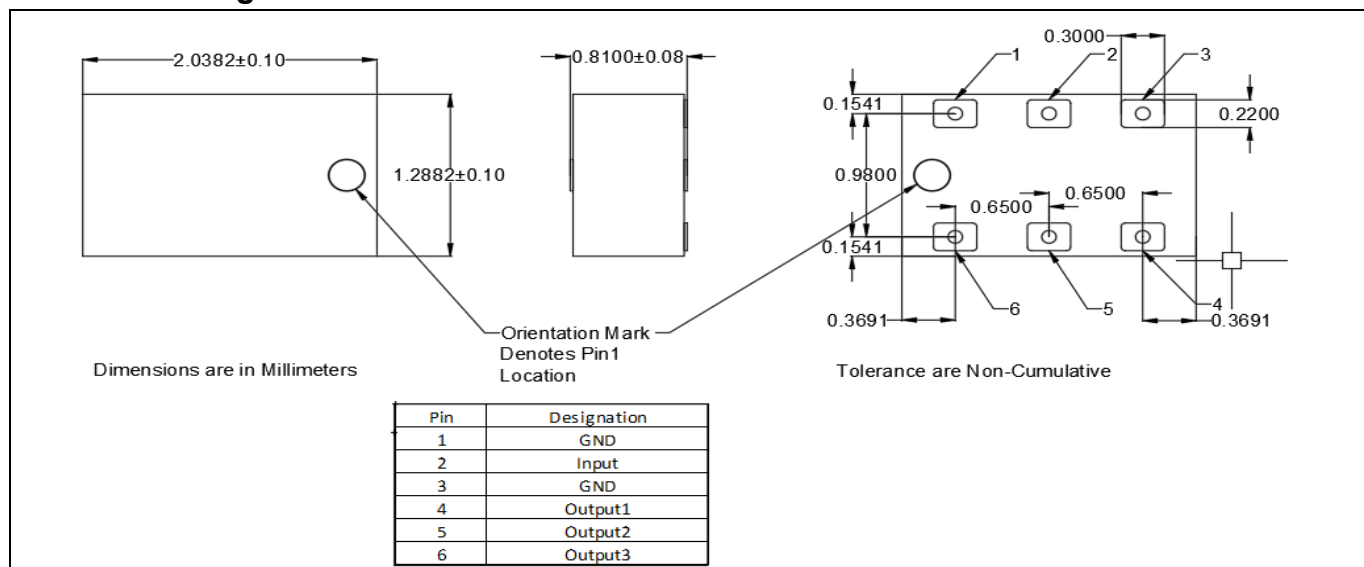
Detailed Electrical Specifications:

Specifications subject to change without notice.

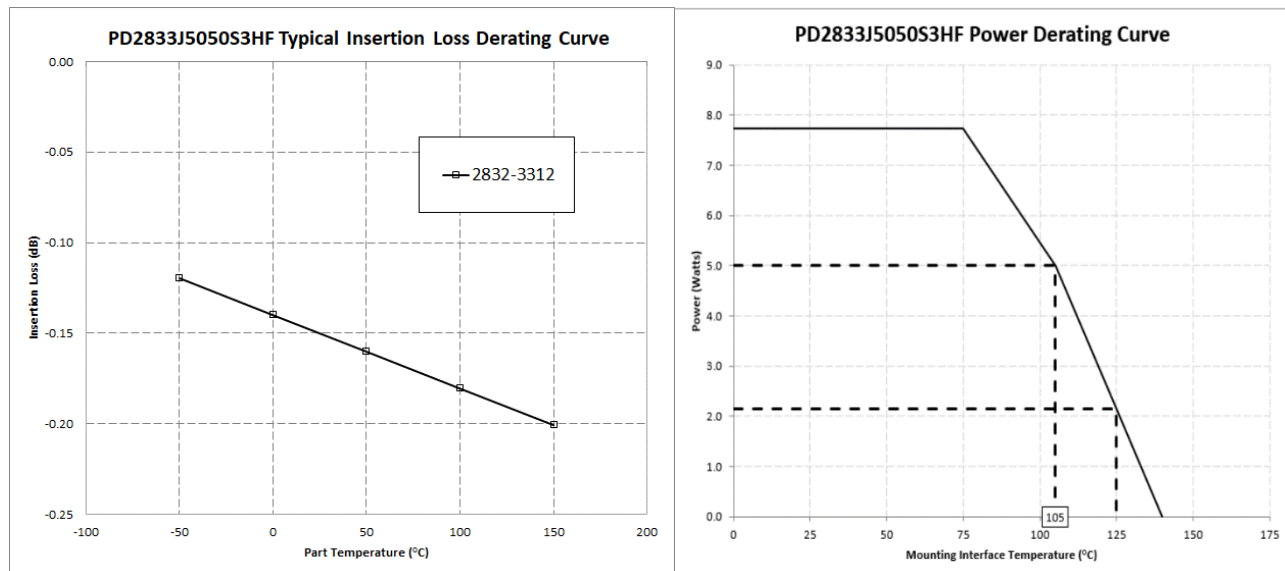
Features:	Parameter	Room (25°C)			Unit
		Min.	Typ.	Max	
• 2832 – 3312 MHz	Frequency	2832		3312	MHz
• 0.81 mm Height Profile	Input Port Impedance		50		Ω
• 50Ω Outputs/Inputs	Output Port Impedance		50		Ω
• DCS/PCS/UMTS/CDMA	Return Loss	14	19		dB
• External resistors required	Insertion Loss*		0.4	0.6	dB
• Low Insertion Loss	Amplitude Balance		0.2	0.6	dB
• Surface Mountable	Phase Balance		0.4	3	Degrees
• Tape & Reel	Isolation (Output Ports)	16	22		dB
• Non-conductive Surface	Power Handling (Avg. CW Watts 105°C)		5		Watts
• RoHS Compliant	Operating Temperature	-55		+140	°C
• Halogen Free					

*Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 °C)

Outline Drawing:



Insertion Loss and Power Derating Curves



Insertion Loss Derating

The insertion loss, at a given frequency of a group of power divider is measured at 25°C and then averaged. The measurements are performed under small signal conditions (i.e. using a Vector Network Analyzer). The process is repeated at -55°C, 105°C and 140°C. A best-fit line for the measured data is computed and then plotted from -55°C to 140°C.

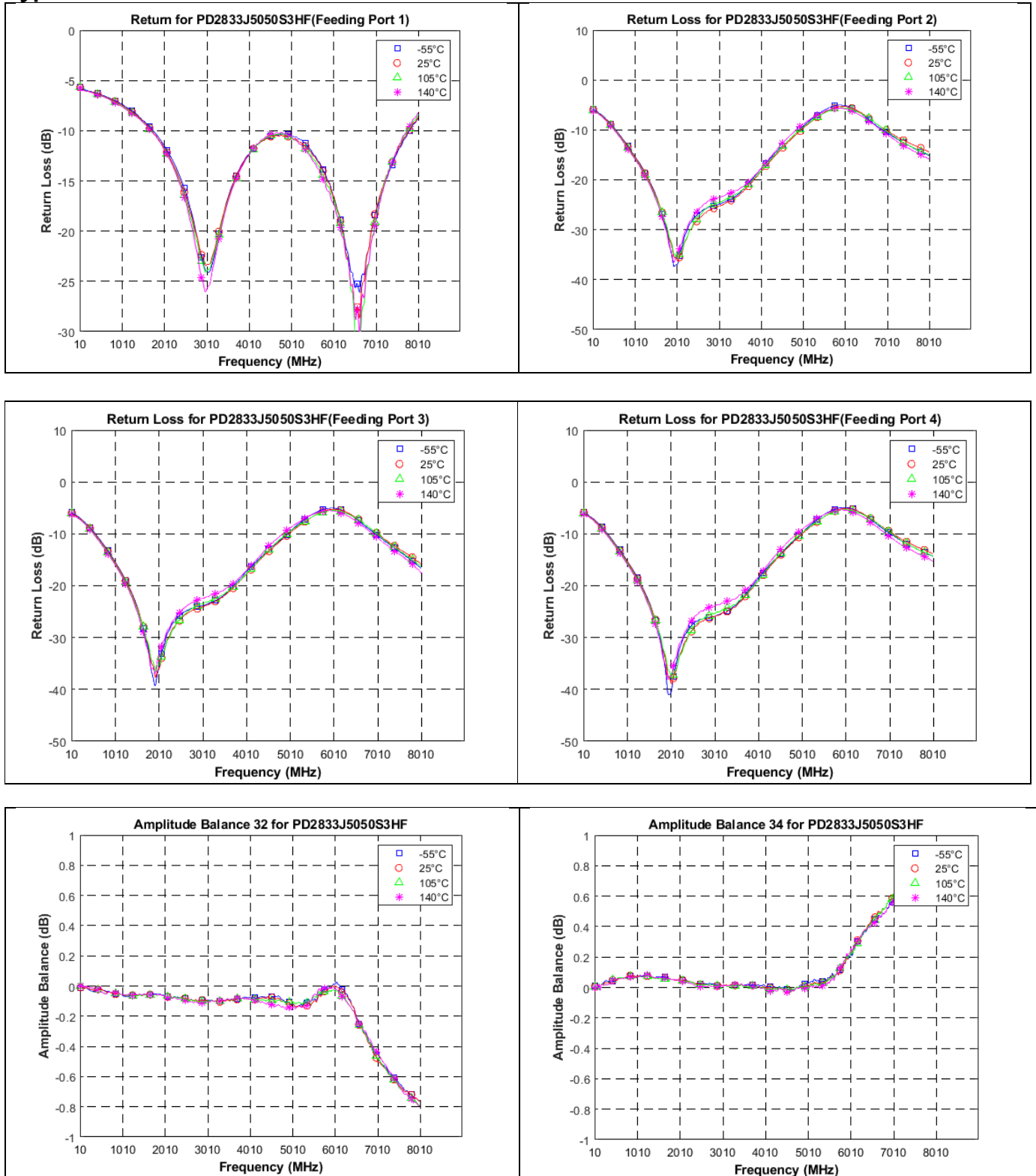
Power Derating

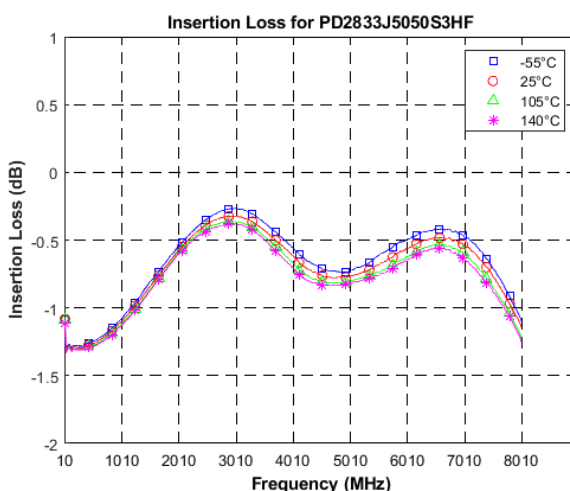
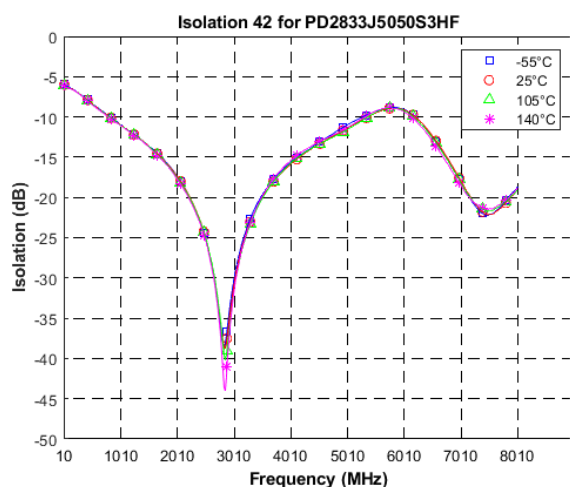
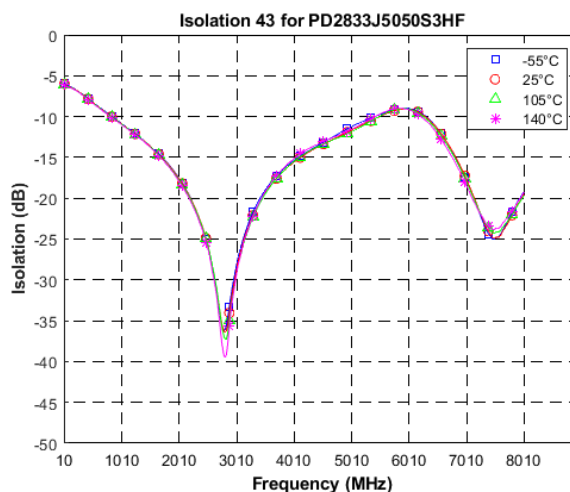
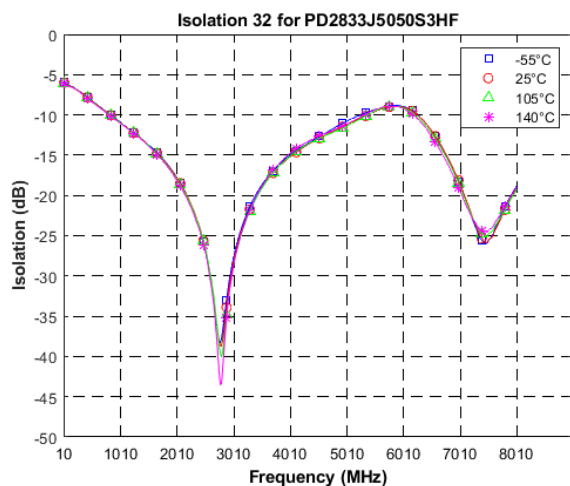
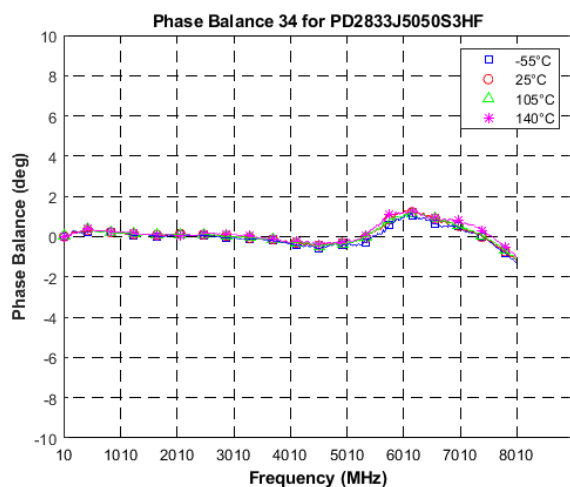
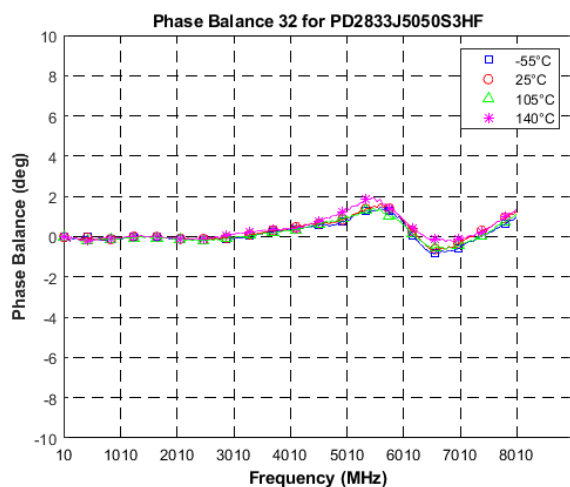
The power handling and corresponding power derating plots are a function of the thermal resistance, mounting surface temperature (base plate temperature), maximum continuous operating temperature of the coupler, and the thermal insertion loss. The thermal insertion loss is defined in the Power Handling section of the data sheet.

As the mounting interface temperature approaches the maximum continuous operating temperature, the power handling decreases to zero.

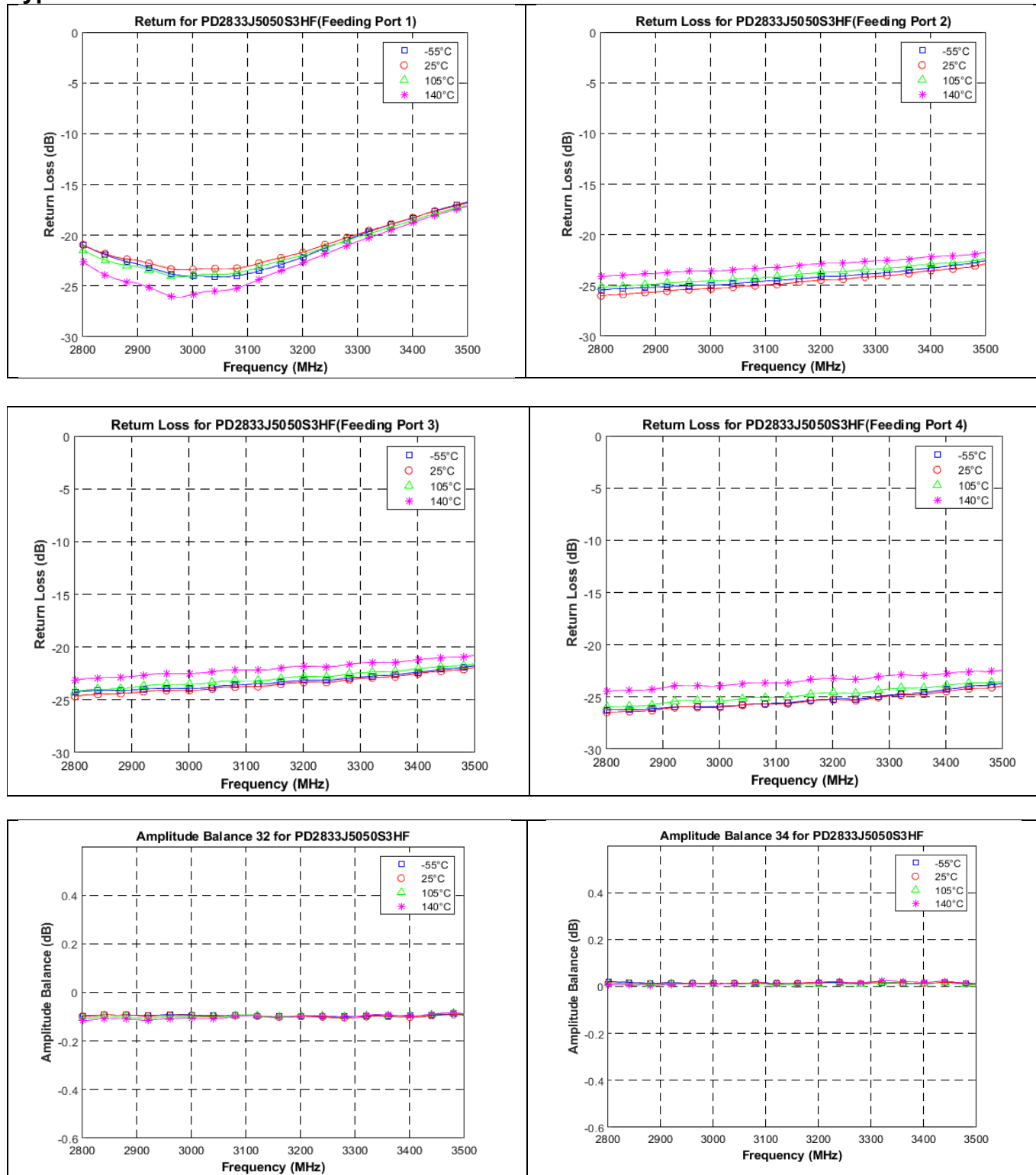
If mounting temperature is greater than 105°C, Power divider will perform reliably as long as the input power is derated to the curve above.

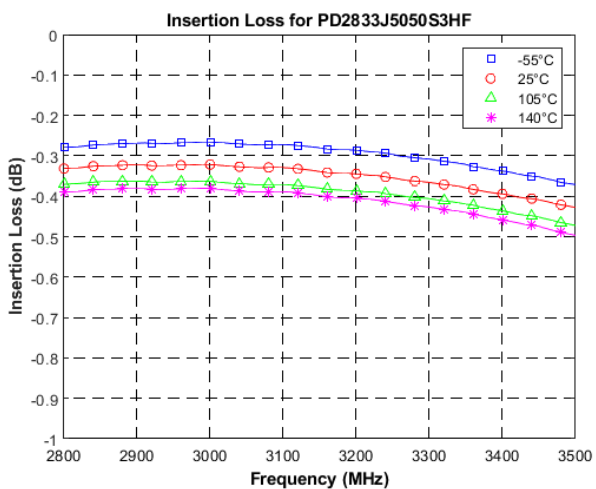
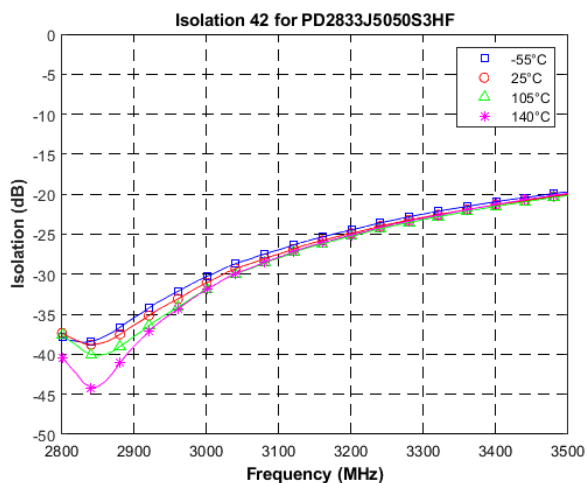
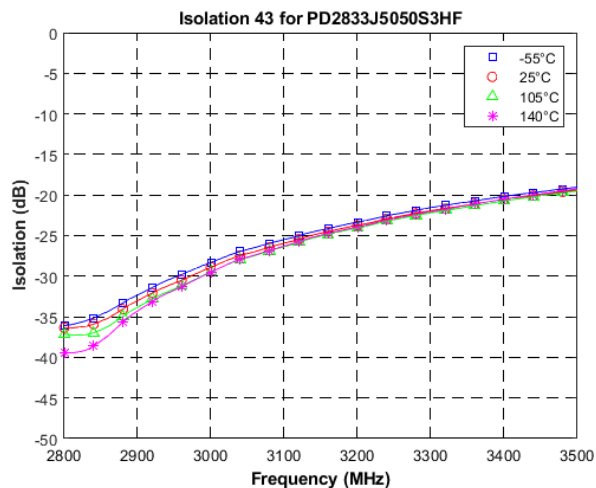
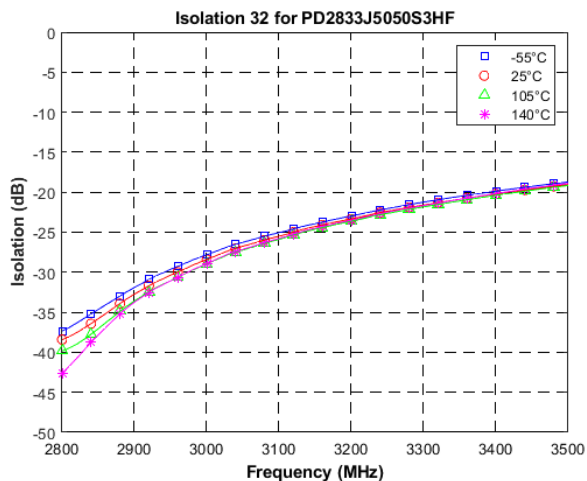
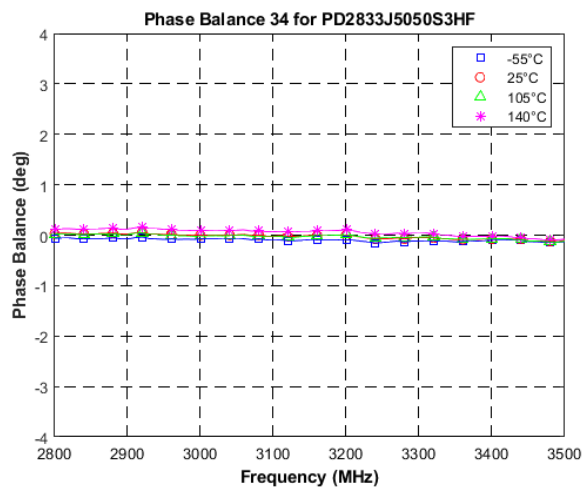
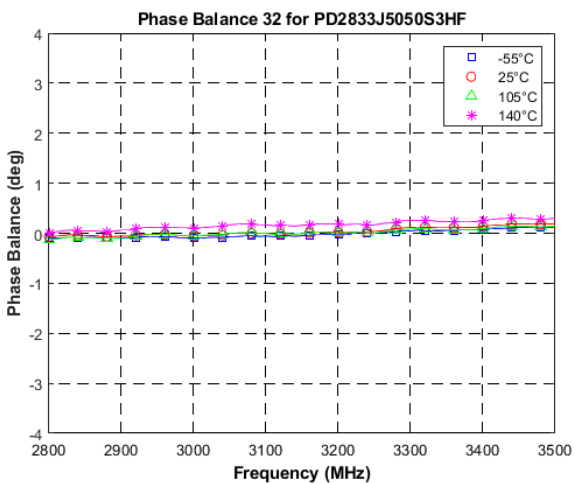
Typical Broadband Performance: 10 MHz to 8.01 GHz





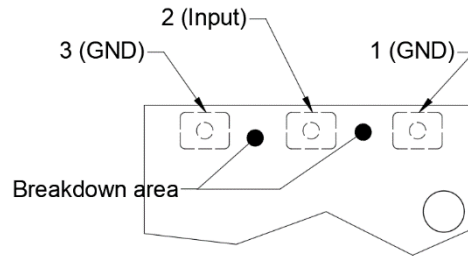
Typical Performance: 2800 MHz to 3300 MHz





Peak Power Handling

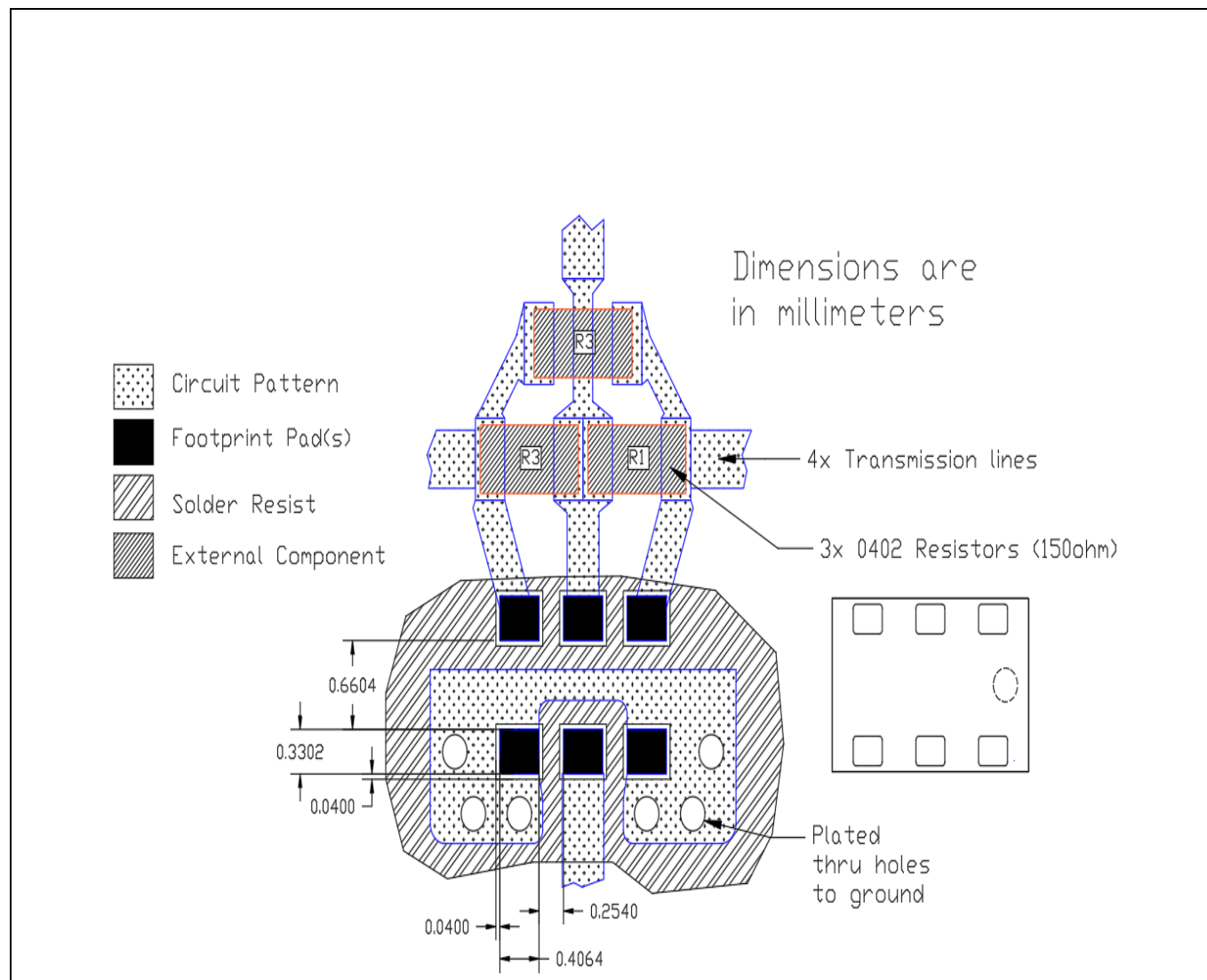
High-Pot testing of these components during the qualification procedure resulted in a minimum breakdown voltage of 1Kv (minimum recorded value). This voltage level corresponds to a breakdown resistance capable of handling at least 12dB peaks over average power levels, for very short durations. The breakdown location consistently occurred across the pads and the ground pads (see illustration below). The breakdown levels at these points will be affected by any contamination in the gap area around these pads. These areas must be kept clean for optimum performance. It is recommended that the user test for voltage breakdown under the maximum operating conditions and over worst case modulation induced power peaking. This evaluation should also include extreme environmental conditions (such as high humidity).



Mounting Configuration:

In order for Xinger surface mount components to work optimally, the proper impedance transmission lines must be used to connect to the RF ports. If this condition is not satisfied, insertion loss, Isolation and VSWR may not meet published specifications.

Below is a suggested PCB footprint can be used for PD2833J5050S3HF. Since PD2833J5050S3HF is a Wilkinson power divider, external 0402 150Ω resistors must be used to provide the Isolation performance.



Packaging and Ordering Information:

Parts are available in reel and are packaged per EIA 481-D. Parts are oriented in tape and reel as shown below. Minimum order quantities are 4000 per reel.

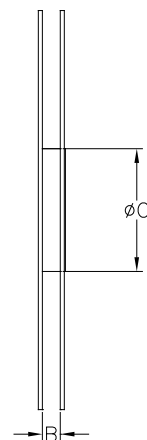
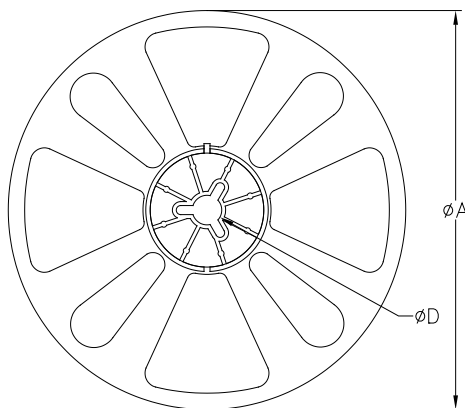
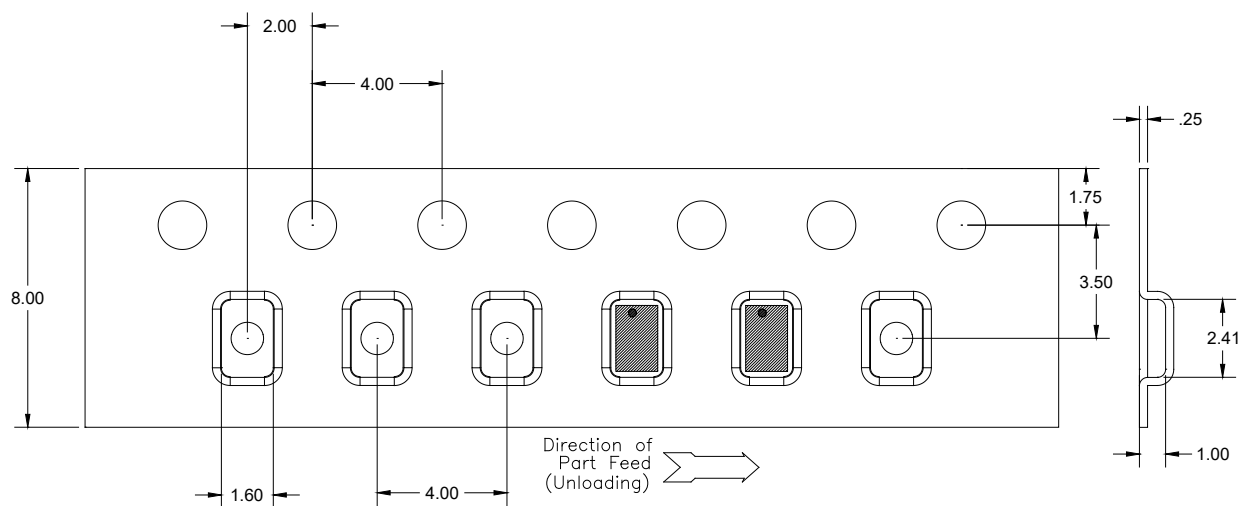


TABLE 1		
QUANTITY/REEL	REEL DIMENSIONS mm	
4000	ϕA	177.80
	B	8.00
	ϕC	50.80
	ϕD	13.00

Contact us:
rf&s_support@ttm.com