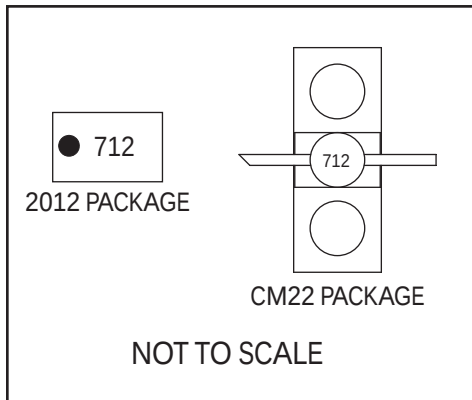


MMA712

DC to 12 GHz Amplifier



Description:

The MMA712 is a fully matched Darlington Amplifier, constructed with reliable InGaP-GaAs HBT technology. Exhibits extremely flat gain response over the operating band.

Features:

- DC - 12 GHz Broadband Gain Block.
- Flat gain over bandwidth +/- 1 dB.
- 50 Ohm match Input/Output

RF Specifications ($T_A = +25^\circ\text{C}$):

Parameter	Minimum	Typical	Maximum	Units	Test Conditions
Frequency Range	DC	- - -	12	GHz	CM22 Package
	DC	- - -	11	GHz	2012 Package
Gain	11	12	14	dB	
VSWR	- - -	1.50:1	2.40:1	- - -	Input/Output
Power Output	+10	+11	- - -	dBm	P-1 dBGCP
OIP3	+16	+23	+25	dBm	
Noise Figure	- - -	5.5	6.5	dB	
DC Supply current	42	48	55	mA	$V_s = 6.00\text{ V}$, $R_{\text{bias}} = 22\ \Omega$
Temperature Range	-40	- - -	+85	$^\circ\text{C}$	

- NOTES:
1. $V_s = 6.00\text{ Vdc}$, $R_{\text{bias}} = 22\ \Omega$
 2. IMD testing with a frequency separation of 1.22 MHz and an output power of 0 dBm/tone

Absolute Maximum Ratings:

Parameters	Rating
DC voltage (V_{cc})	+5.20 V
RF Input Power, continuous	+10 dBm
Operating Temperature	-40 to +85 $^\circ\text{C}$
Storage Temperature	-55 to +125 $^\circ\text{C}$



RF Performance, CM22 Package:

Figure 1.

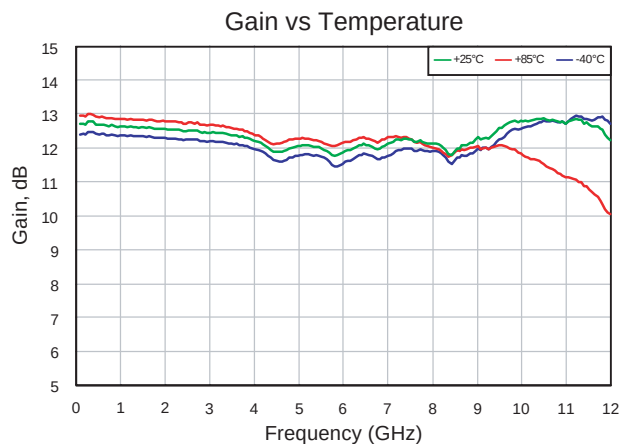


Figure 2.

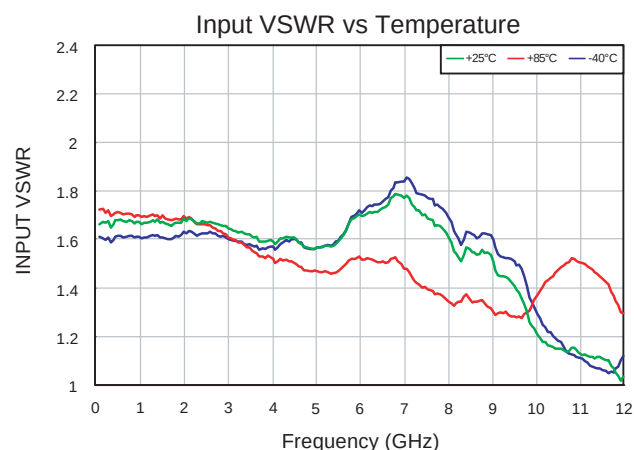


Figure 3.

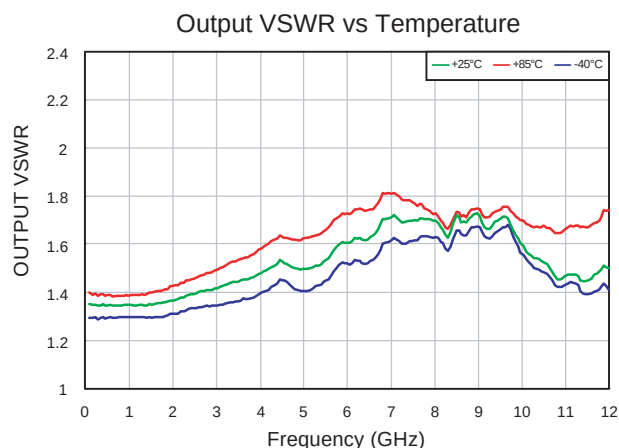


Figure 4.

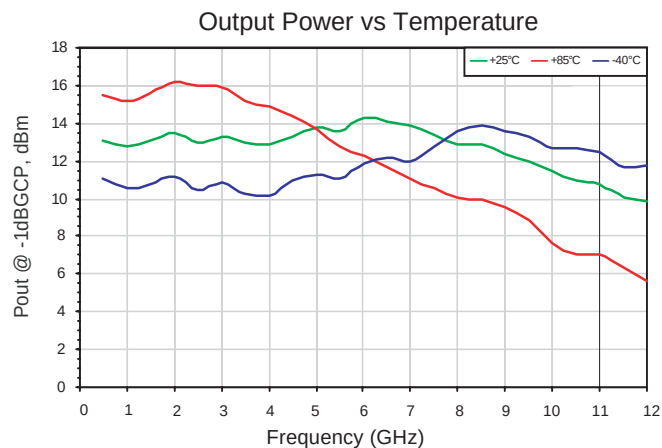


Figure 5.

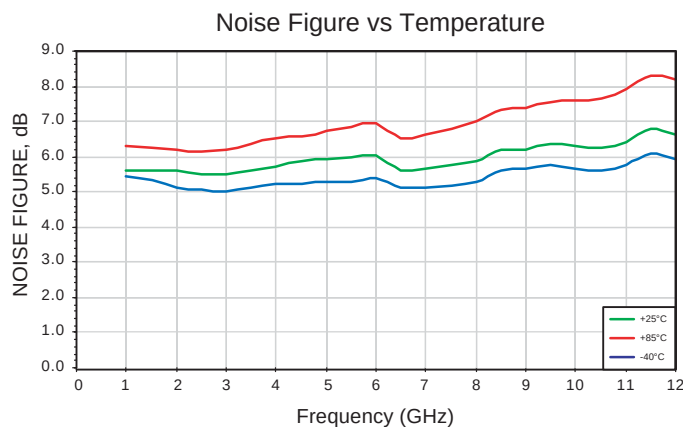
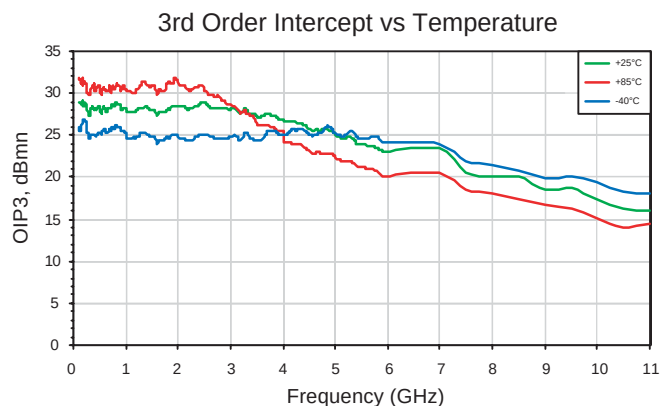


Figure 5.



MMA712

DC to 12 GHz Amplifier



RF Performance, 2012 Package:

Figure 7.

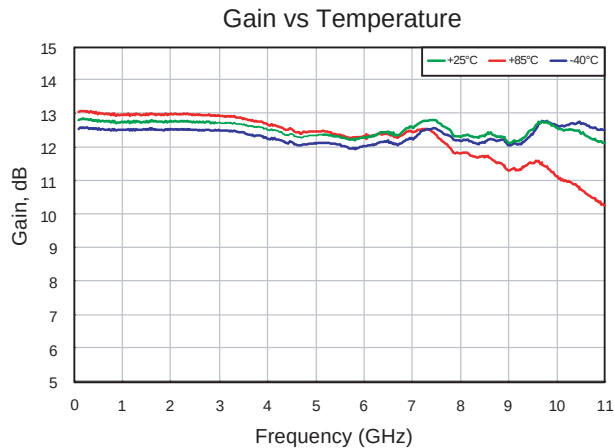


Figure 8.

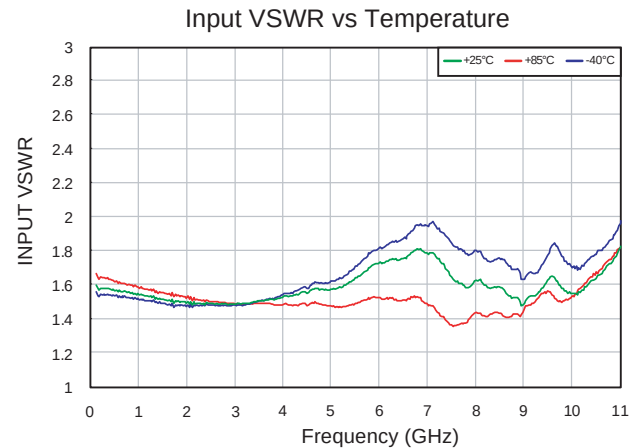


Figure 9.

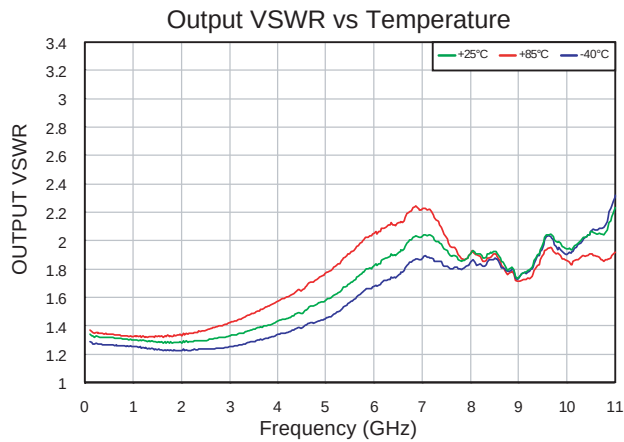


Figure 10.

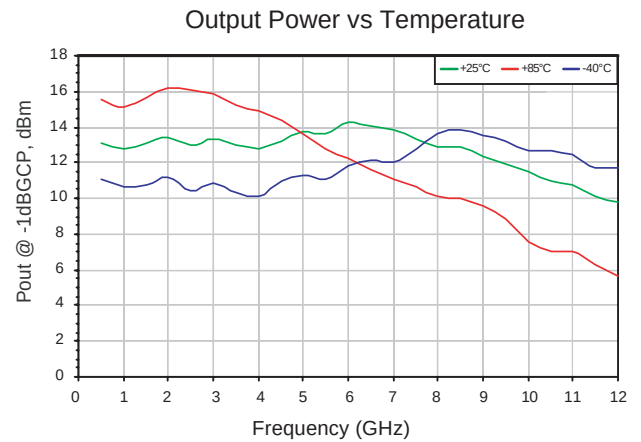


Figure 11.

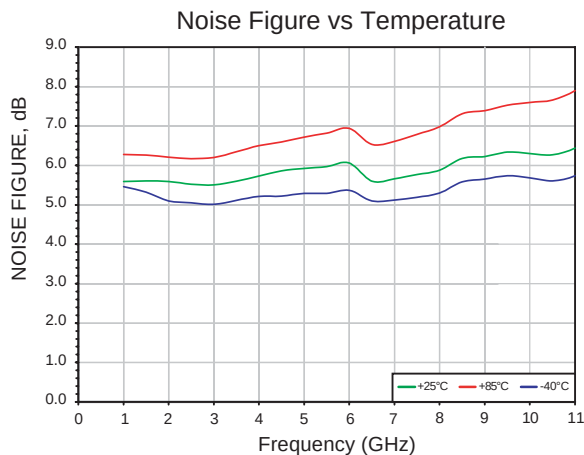
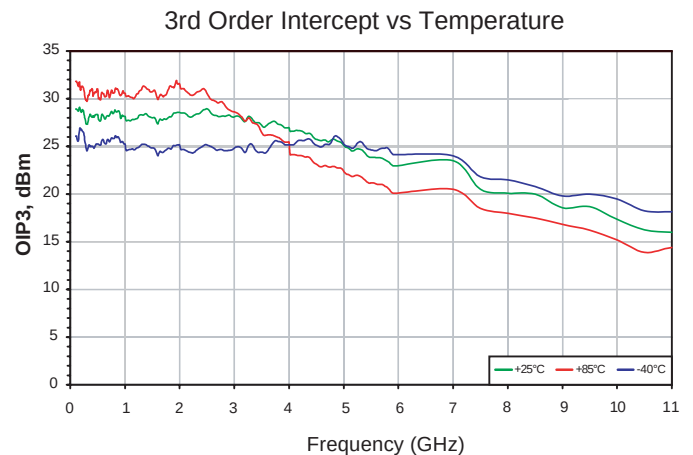
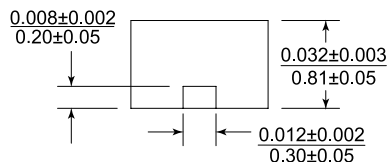
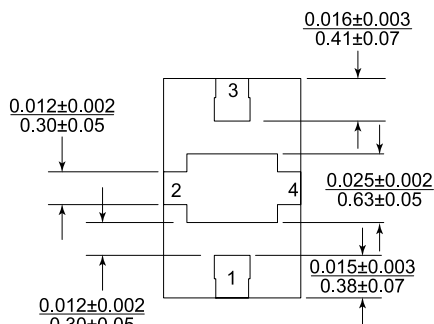
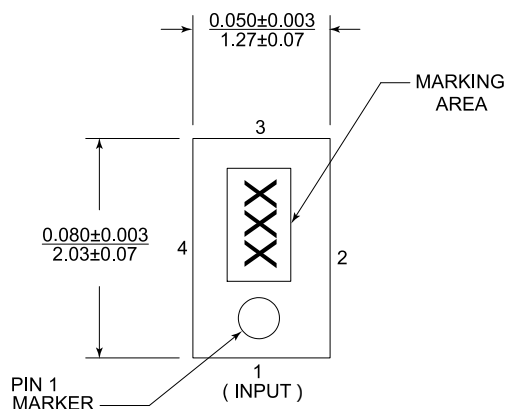


Figure 12.



2012 Package Dimensions:



PIN FUNCTION

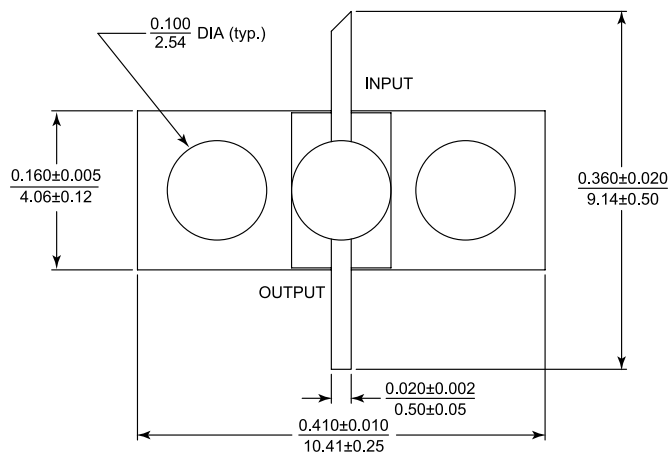
- | PIN | FUNCTION |
|-----|------------------|
| 1 | INPUT |
| 2 | RF AND DC GROUND |
| 3 | OUTPUT |
| 4 | RF AND DC GROUND |

ALL DIMENSIONS +/- 0.001 INCH

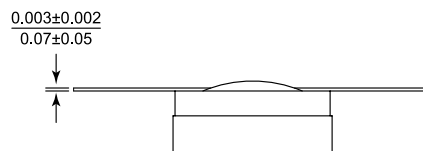
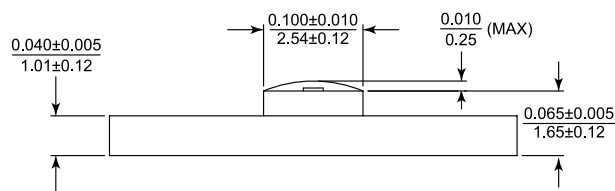
INCH
MM

Lead Finish is Pd/Ni (Pd = 0.020-0.150 μ m, Ni = 0.5-2.0 μ m)

CM22 Package Dimensions:



INCH
MM



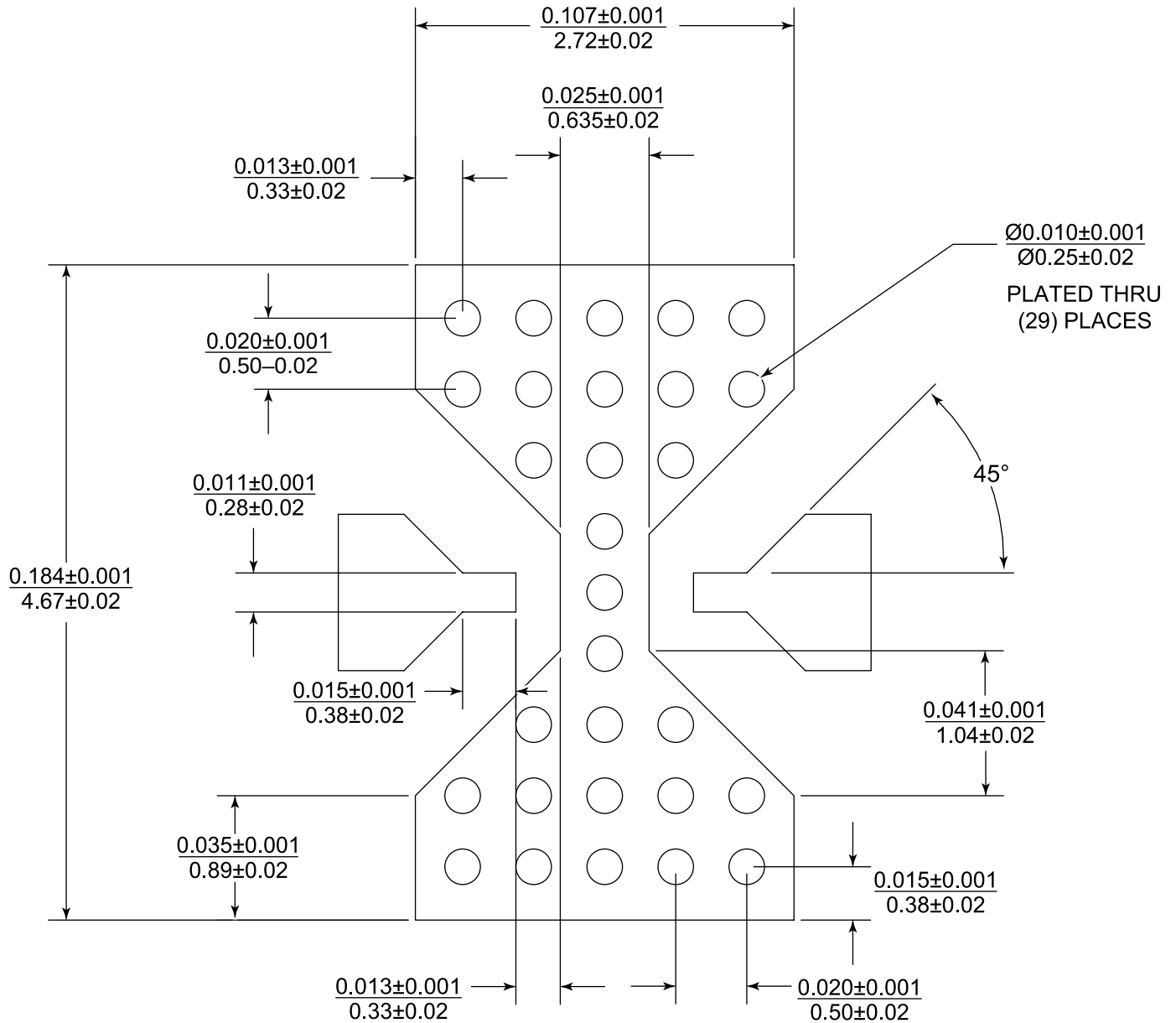
ALL DIMENSIONS +/- 0.003 INCH

MMA712

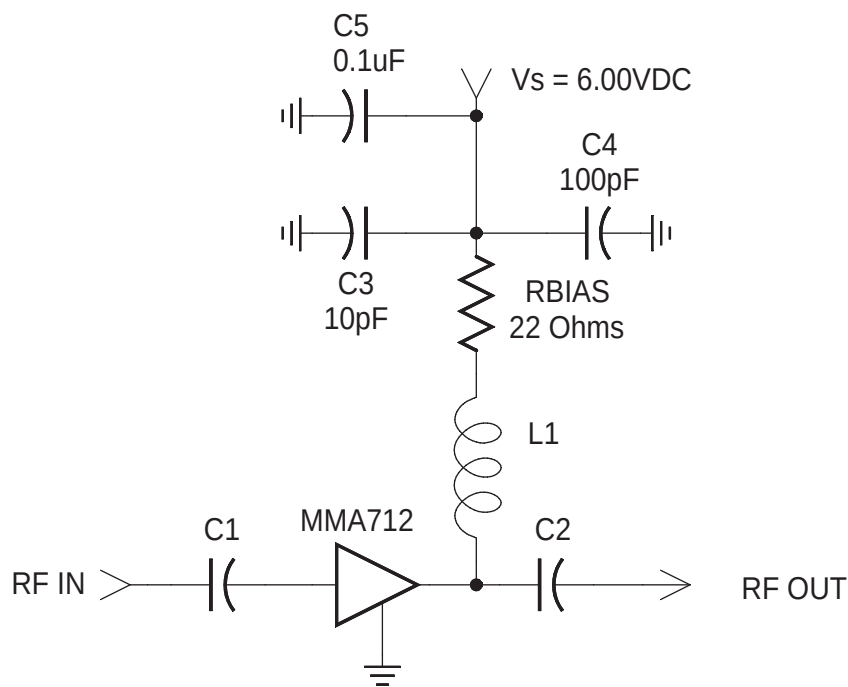
DC to 12 GHz Amplifier



2012 Footprint:



Application Circuit:



C1, C2, L1: Set by lowest operating frequency.

Bias Resistor Value vs Supply Voltage:

Vs (V)	6.00	8.00	10.00	12.00	15.00
Rbias (Ω)	22	43	86	130	200
Power Dissipation (W)	0.10	0.2	0.5	1	2

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.