

Intangible assets consist of the following (in thousands):

	September 27, 2019	September 28, 2018
Acquired technology	\$ 179,682	\$ 251,673
Customer relationships	245,870	518,234
Trade name, indefinite lived	3,400	3,400
Total	428,952	773,307
Less accumulated amortization	(247,724)	(260,522)
Intangible assets — net	\$ 181,228	\$ 512,785

As of September 27, 2019, our estimated amortization of our intangible assets in future fiscal years, was as follows (in thousands):

	2020	2021	2022	2023	2024	Thereafter
Amortization expense \$	50,330	46,213	33,433	26,048	15,410	6,394

Accumulated amortization for the acquired technology and customer relationships was \$134.8 million and \$112.9 million, respectively, as of September 27, 2019, and \$140.0 million and \$120.5 million, respectively, as of September 28, 2018.

A summary of the activity in intangible assets and goodwill follows (in thousands):

	Gross Intangible Assets				Total Goodwill
	Total Intangibles	Acquired Technology	Customer Relationships	Trade Name	
Balance at September 29, 2017	\$ 811,703	\$ 251,655	\$ 556,648	\$ 3,400	\$ 313,765
Allocation to divested business	(39,285)	—	(39,285)	—	(2,560)
Fair value adjustment	—	—	—	—	2,790
Currency translation adjustments	889	18	871	—	81
Balance at September 28, 2018	773,307	251,673	518,234	3,400	314,076
Currency translation adjustments	270	270	—	—	651
Impairments of intangible assets	(344,625)	(72,261)	(272,364)	—	—
Balance at September 27, 2019	\$ 428,952	\$ 179,682	\$ 245,870	\$ 3,400	\$ 314,727

In connection with the impairment of certain customer relationships and acquired technology intangible assets in 2019, we revised the useful lives of these intangible assets to reflect the estimated period over which these assets are expected to contribute to future cash flows, resulting in weighted-average amortization periods for our customer relationships and acquired technology of nine years and seven years, respectively. See *Note 17 - Impairments*, for additional information related to the impairment of our intangible assets.

19. INCOME TAXES

Deferred income taxes reflect the net effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and amounts used for income tax purposes. The components of our deferred tax assets and liabilities are as follows (in thousands):

	September 27, 2019	September 28, 2018
Deferred tax assets (liabilities):		
Federal and foreign net operating losses and credits	\$ 263,199	\$ 321,982
Intangible assets	9,887	(94,929)
Property and equipment	(1,473)	(6,293)
Other non-current deferred tax assets	16,933	13,850
Deferred compensation	—	3,810
Deferred gain	—	6,575
Interest	7,170	—
Valuation allowance	(252,536)	(243,112)
Total deferred tax asset	\$ 43,180	\$ 1,883

As of September 27, 2019, we had \$923.4 million of gross federal net operating loss ("NOL") carryforwards consisting of \$479.2 million relating to the AppliedMicro Acquisition, \$158.9 million relating to our acquisition of Mindspeed Technologies, Inc. in 2013, \$26.2 million relating to our acquisition of BinOptics Corporation in 2014 and \$259.1 million relating to losses generated by MACOM. The federal NOL carryforwards will expire at various dates through 2037 for losses generated prior to the tax period ended September 28, 2018. For losses generated during the tax period ended September 28, 2018 and future years, the NOL carryforward period is infinite. The reported net operating loss carryforward includes any limitation under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, which applies to an ownership change as defined under Section 382.

The domestic and foreign income (loss) from continuing operations before taxes were as follows (in thousands):

	Fiscal Years		
	2019	2018	2017
United States	\$ (458,617)	\$ (145,851)	\$ (111,432)
Foreign	35,464	(9,384)	61,927
(Loss) income from operations before income taxes	\$ (423,153)	\$ (155,235)	\$ (49,505)

The components of the (benefit) provision for income taxes are as follows (in thousands):

	Fiscal Years		
	2019	2018	2017
Current:			
Federal	\$ 70	\$ (6,876)	\$ 100
State	36	(160)	225
Foreign	876	1,642	7,307
Current provision (benefit)	982	(5,394)	7,632
Deferred:			
Federal	(21,560)	75,428	(42,637)
State	12,907	(15,526)	(4,037)
Foreign	(41,108)	(24,652)	(466)
Change in valuation allowance	9,424	(51,329)	140,419
Deferred (benefit) provision	(40,337)	(16,079)	93,279
Total (benefit) provision	\$ (39,355)	\$ (21,473)	\$ 100,911

We recognize deferred tax assets to the extent that we believe that these assets are more likely than not to be realized. In making this determination, we consider available positive and negative evidence and factors that may impact the valuation of our deferred tax asset including results of recent operations, future reversals of existing taxable temporary differences, projected future taxable income, and tax-planning strategies. A significant piece of objective negative evidence evaluated was the cumulative U.S. loss incurred over the three-year period ended September 27, 2019 which we believe limited our ability to consider other subjective evidence, such as our projections for future growth.

Certain transaction- and integration-related expenses incurred in the U.S., associated primarily with the AppliedMicro Acquisition during the three months ended March 31, 2017, resulted for the first time in significant negative objective evidence in the form of adjusted cumulative losses in the U.S. over the past three-year period. This resulted in our determination that there was not sufficient objectively verifiable positive evidence to offset this negative objective evidence and we concluded that a full valuation allowance totaling \$93.5 million was required for our U.S. deferred tax assets as of September 29, 2017. In addition, a full valuation allowance was established against the U.S. deferred tax assets acquired in connection with the AppliedMicro Acquisition.

The \$252.5 million of valuation allowance as of September 27, 2019 relates primarily to federal and state NOLs, tax credit carryforwards and a partial valuation allowance on tax credits in Canada of \$19.0 million whose recovery is not considered more likely than not. The \$243.1 million of valuation allowance as of September 28, 2018 related primarily to federal and state NOLs, tax credit carryforwards and a partial valuation allowance on tax credits in Canada of \$13.6 million whose recovery is not considered more likely than not. The change during the fiscal year ended September 27, 2019 of \$9.4 million primarily relates to the reduction of our NOLs due to section 382 limitations, the changes in our temporary differences, and the lower U.S. federal tax rate.