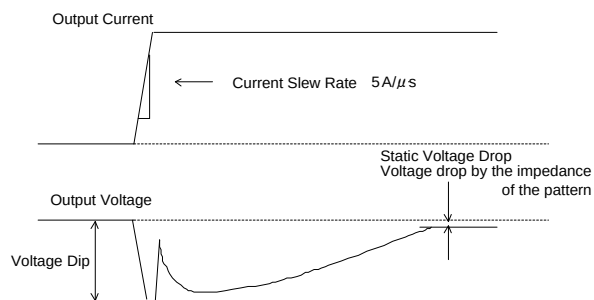


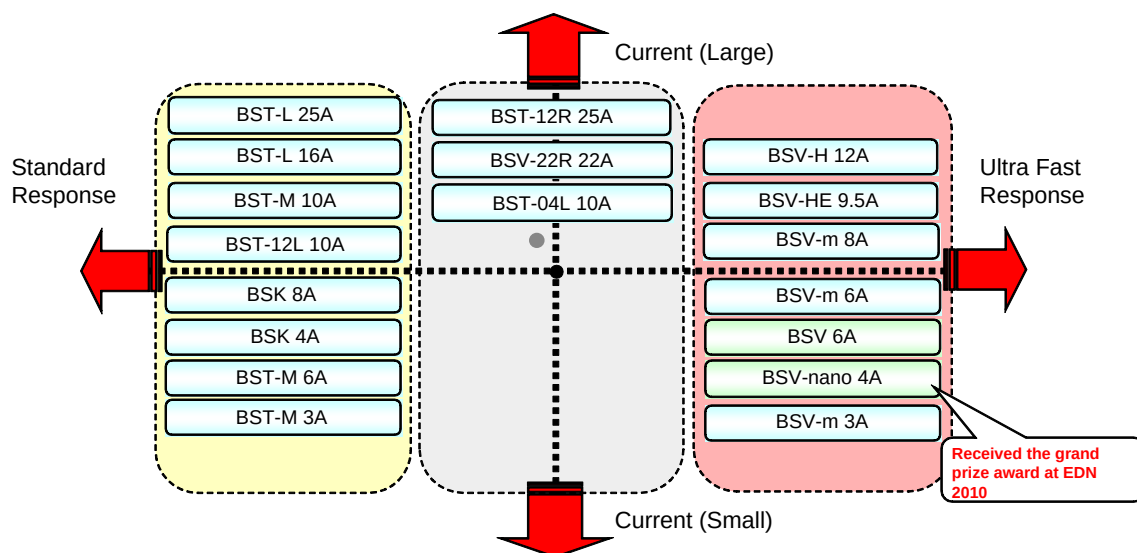
<Mini Application Note 2>

Fast Transient Response • Ultra Fast Transient Response

Today there is a growing demand for faster power supply response times in highly-functional, low-voltage devices such as FPGAs. Converters capable of delivering faster response times than conventional DC-DC converters are called fast transient response converters. However, there are times fast transient response converters prove inadequate, and converters capable of driving even faster loads are required. These are defined as “ultra fast transient response” converters. The maximum voltage dip of an ultra fast transient response converter is 50 mV when measured at a slew rate of 5A/μs, while that of a fast transient response converter is 150 mV. On the other hand the maximum voltage dip of an ordinary converter exceeds 150 mV when measured at the same slew rate.



Grouping by current value



Models		Vout (V)	Iout (A)	Voltage Dip (Recommended Capacitor)	Voltage Dip (50uF/1A)	Rank
BSV Series	BSV-3.3S3R0M	1.0	0→3	45mV	45mV	Ultra Fast
	BSV-1.8S4R0NA	1.0	0→4	40mV	40mV	Ultra Fast
	BSV-3.3S6R0A	1.0	0→6	50mV	50mV	Ultra Fast
	BSV-3.3S6R0M	1.0	0→6	45mV	45mV	Ultra Fast
	BSV-3.3S8R0M	1.0	0→8	45mV	45mV	Ultra Fast
	BSV-1.8S9R5HE	1.0	0→9.5	40mV	35mV	Ultra Fast
	BSV-1.5S12R0H	1.0	0→12	45mV	45mV	Ultra Fast
	BSV-3.3S12R0H	1.0	0→12	45mV	45mV	Ultra Fast
	BSV-1.5S22R0H	1.0	0→22	65mV	60mV	Fast
BST Series	BST04M-0.7S06PDM	1.0	0→6	180mV	160mV	Standard
	BST04M-0.7S10PDM	1.0	0→10	280mV	230mV	Standard
	BST04L-0.7S10PDM	1.0	0→10	145mV	125mV	Fast
	BST04L-0.7S16PDM	1.0	0→16	230mV	175mV	Standard
	BST04L-0.7S25PDM	1.0	0→25	230mV	155mV	Standard
	BST12M-0.7S03PDM	1.0	0→3	180mV	170mV	Standard
	BST12M-0.7S10PDM	1.0	0→10	220mV	170mV	Standard
	BST12L-0.7S10PDM	1.0	0→10	160mV	130mV	Standard
	BST12L-0.7S16PDM	1.0	0→16	185mV	160mV	Standard
	BST12R-0.7S25PDM	1.0	0→25	105mV	75mV	Fast
	BSK12-0.8S04PDM	1.0	0→4	240mV	160mV	Standard
	BSK12-0.8S08PDM	1.0	0→8	590mV	210mV	Standard

*1 Slew rate electronic load is set at 5A/us.