

## SAS Output characteristics of the READY LED signal [T10/02-353r1](#)

Date: September 24, 02  
 To: T10 Technical Committee  
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 Subject: SAS Output characteristics of the READY LED signal

The SAS PHY working group has suggested the following change to Table 11. It is based on the improvements in LED performance, the shift to smaller process geometries of ASIC's and their lower voltages, and the 3.3V supply requirement of SAS. [See T10/02-389r0 for supporting information.](#)

**Table 11. Output characteristics of the READY LED signal**

State	Output current	Output voltage
Drive LED off	$-100 \mu A < I_{OH} < 100 \mu A$	$0 < V_{OH} < 5.5 V$
Drive LED on	$I_{OL} > 30 mA$	$0 < V_{OL} < 0.5 V$

Change to:

~~| State         | Output current                    | Output voltage       |
|---------------|-----------------------------------|----------------------|
| Drive LED off | $-100 \mu A < I_{OH} < 100 \mu A$ | $0 < V_{OH} < 3.6 V$ |
| Drive LED on  | $I_{OL} > 15 mA$                  | $0 < V_{OL} < 0.2 V$ |~~

State	Output current	Output voltage
Drive LED off	$-100 \mu A < I_{OH} < 100 \mu A$	$0 \leq V_{OH} \leq 3,6 V$
Drive LED on	$I_{OL} \geq 15 mA$	$0 \leq V_{OL} \leq 0,225 V @ I_{OL} = 15 mA$