

G115/G123 4 and 6-Channel MOS FET Switches Industrial Series - 20°C to +85°C

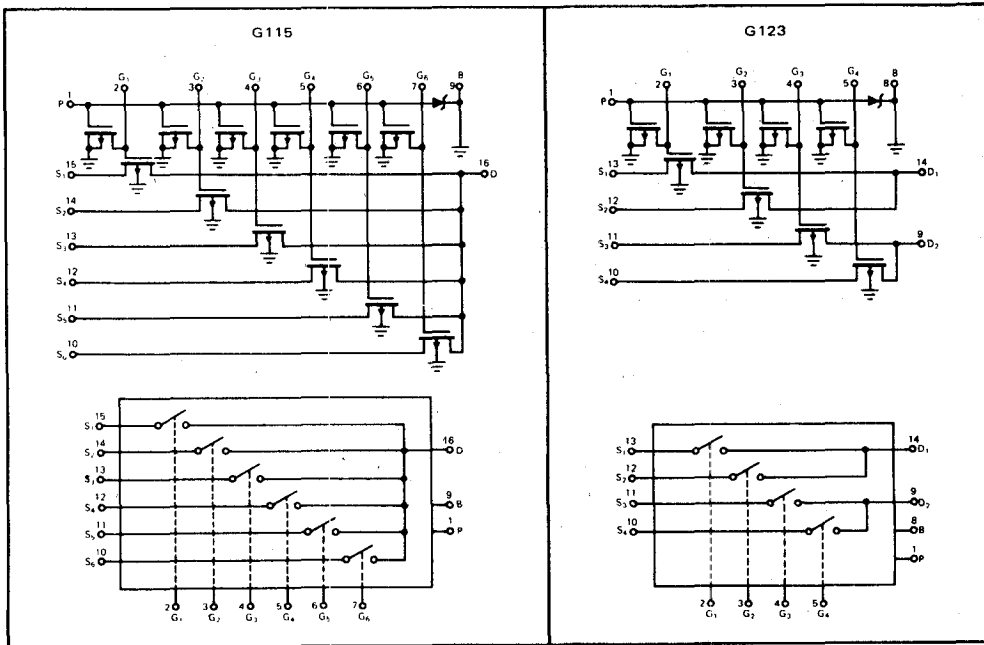
FEATURES

- Integrated MOS-FET Constant-Current Sources for Active Driver-Collector Pull-up
- Integrated Zener Diode Protection for Both Positive and Negative Spike Protection
- P-Channel Enhancement-Type Switches

GENERAL DESCRIPTION

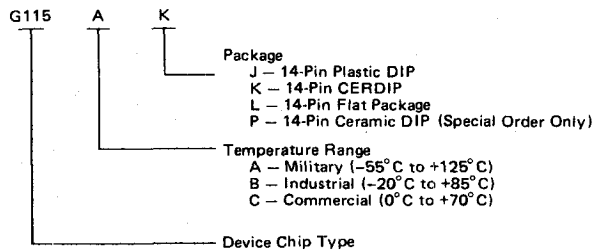
These switches may be connected directly to the INTERSIL switch-driver D123 series without the need of any interfacing components, and are internally protected by a Zener diode integrated on the silicon chip. A MOS-FET used as a current source provides an active pull-up for faster switching capability. The active pull-up FET can be disabled without sacrificing the Zener protection of the gates.

SCHEMATICS AND PIN CONFIGURATIONS (Outline Dwgs DD, FD-2, JD, PD)



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ORDERING INFORMATION



NOTE: Plastic package available in commercial and industrial temperature ranges only.

ABSOLUTE MAXIMUM RATINGS (25°C)

Source Current (I_S)	100mA	Body to Drain ($V_B - V_D$)	-2V to +25V
Drain Current (I_D)	100mA	Body to Gate ($V_B - V_G$)	+35V
Gate Current (I_G)	5mA	Body to Pull-up ($V_B - V_P$)	+35V
Pull-up Control Current (I_P)	100µA	Power Dissipation (derate 10mW/°C above 70°C)	750mW
Body to Source ($V_B - V_S$)	-2V to +25V	Lead Temperature (soldering, 10 sec.)	300°C

Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS (per channel unless noted)

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	PARAMETER	LIMITS				UNITS	CONDITIONS		
		-20°C	25°C	85°C	MIN/MAX				
G115 and G123	$r_{DS(ON)}$	125	125	150	Max	Ω	$V_{BD} = 0, V_{GD} = -30V$		
		250	250	300			$I_S = 1mA$		
		500	500	600			$V_{BD} = +10V, V_{GD} = -20V$		
	$I_{D(OFF)}$		-10	-500	Max	nA	$V_{DS} = -20V, V_{BS} = V_{GS} = V_{PS} = 0$		
	$I_{S(OFF)}$		-5	-100	Max	nA	$V_{SD} = -20V, V_{BD} = V_{GD} = V_{PD} = 0$		
	I_{GBS}		-5	-100	Max	nA	$V_{GB} = -20V, V_{DB} = V_{SB} = V_{PB} = 0$		
	$I_{G(ON)}$				Min	mA	$V_{GB} = -30V, V_{PB} = -30V, V_{DB} = 0$		
					Max				
	$V_{GS(th)}$		-2	-2	-2	Min	V	$I_S = -10\mu A, V_{DG} = 0, V_{BS} = V_{PS} = 0$	
			-6	-6	-6	Max			
	BV_{DSS}		-25	-25	-25	Min	V	$I_D = -10\mu A, V_{GB} = V_{BS} = V_{PS} = 0$	
	BV_{SDS}		-25	-25	-25	Min	V	$I_S = -10\mu A, V_{GD} = V_{BD} = V_{PD} = 0$	
BV_{GBS}		-35	-35	-35	Min	V	$I_G = -10\mu A, V_{DB} = V_{SB} = V_{PB} = 0$		
		-90	-90	-90	Max				
BV_{PBS}		-35	-35	-35	Min	V	$I_P = -10\mu A, V_{DB} = V_{SB} = V_{GB} = 0$		
		-90	-90	-90	Max				
C_{GS}, C_{GD}			3(TYP)		Typ	pF	$V_{GB} = 0, V_{SB} = 0, V_{DB} = 0, V_{PB} = 0$		
C_{DS}			0.4(TYP)		Typ	pF	$f = 1MHz, \text{Body Guarded}$		
G115	C_{DB}		18 (TYP)		Typ	pF	$V_{DB} = -5V, V_{SB} = V_{GB} = V_{PB} = 0$		
G123			9 (TYP)		Typ	pF	$f = 1MHz$		
Both	C_{SB}		3.5(TYP)		Typ	pF	$V_{SB} = -5V, V_{DB} = 0, V_{GB} = V_{PB} = 0$		
							$f = 1MHz$		

TYPICAL CHARACTERISTICS

