

Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I_F	50	mA	
	Repetitive peak LED forward current	I_{FP}	1	A	100 μ s pulses, 100 pps
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C	Ta $\geq 25^\circ\text{C}$
	LED reverse voltage	V_R	5	V	
	Connection temperature	T_J	125	°C	
Output	Output dielectric strength	V_{OFF}	350	V	
	Continuous load current	Connection A	120 (90)	mA	
		Connection B	120 (90)		
		Connection C	240 (180)		
	ON current reduction rate	Connection A	-1.2 (-0.9)	mA/°C	Ta $\geq 25^\circ\text{C}$
		Connection B	-1.2 (-0.9)		
		Connection C	-2.4 (-1.8)		
	Connection temperature	T_J	125	°C	
Dielectric strength between input and output (See note 1.)		V_{IO}	1,500	Vrms	AC for 1 min
Operating temperature		T_a	-40 to 85	°C	With no icing or condensation
Storage temperature		T_{stg}	-55 to 125	°C	With no icing or condensation
Soldering temperature (10 s)		---	260	°C	10 s

Values inside parentheses () are for G3VM-353H1.

Electrical Characteristics (Ta = 25°C)

Item		Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
Input	LED forward voltage	V_F	1.0	1.15	1.3	V	$I_F = 10 \text{ mA}$
	Reverse current	I_R	---	---	10	μA	$V_R = 5 \text{ V}$
	Capacity between terminals	C_T	---	30	---	pF	$V = 0, f = 1 \text{ MHz}$
	Trigger LED forward current	I_{FC}	---	1.0	3.0	mA	$I_{OFF} = 10 \mu\text{A}$
Output	Maximum resistance with output ON	Connection A	---	15 (27)	25 (50)	Ω	$I_O = 120 \text{ mA}$
		Connection B	---	8 (20)	14 (43)	Ω	$I_O = 120 \text{ mA}$
		Connection C	---	4 (10)	---	Ω	$I_O = 240 \text{ mA}$
	Current leakage when the relay is open	I_{LEAK}	---	---	1.0	μA	$V_{OFF} = 350 \text{ V}, I_F = 5 \text{ mA}$
Capacity between I/O terminals		C_{IO}	---	0.8	---	pF	$f = 1 \text{ MHz}, V_s = 0 \text{ V}$
Insulation resistance		R_{IO}	1,000	---	---	M Ω	$V_{IO} = 500 \text{ V DC}, R_{OH} \leq 60\%$
Turn-ON time		t_{ON}	---	(0.25)	1.0 (0.5)	ms	$I_F = 5 \text{ mA}, R_L = 200 \Omega, V_{DD} = 20 \text{ V}$ (See note 2.)
Turn-OFF time		t_{OFF}	---	(0.5)	3.0 (1)	ms	

Values inside parentheses () are for G3VM-353H1.

Recommended Operating Conditions

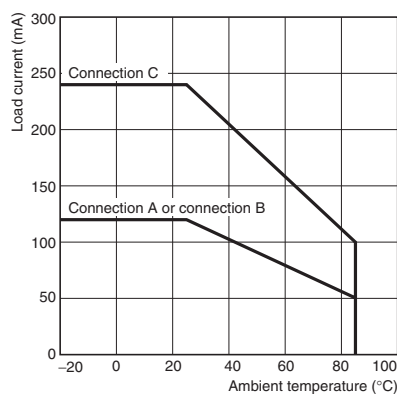
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V_{DD}	---	---	280	V
Operating LED forward current	I_F	5	---	25	mA
Continuous load current	I_O	---	---	120 (90)	mA
Operating temperature	T_a	-20	---	65	°C

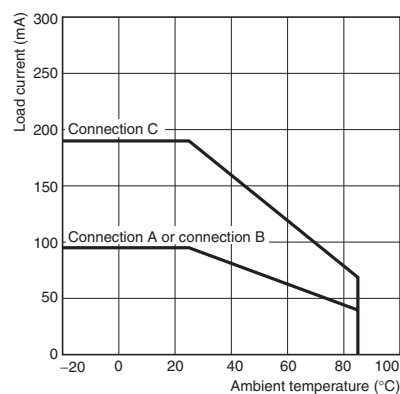
Values inside parentheses () are for G3VM-353H1.

Engineering Data

Load Current vs. Ambient Temperature G3VM-353H

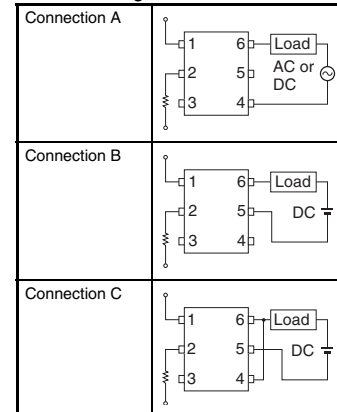


Load Current vs. Ambient Temperature G3VM-353H1

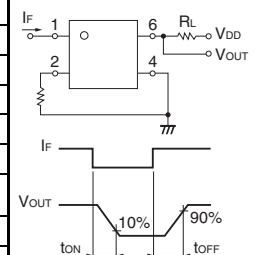


Note 1. The dielectric strength between the input and output was checked by applying voltage between all pins as a group on the LED side and all pins as a group on the light-receiving side.

Connection Diagram



Note 2. Turn-ON and Turn-OFF Times



Safety Precautions

Refer to page 2 for precautions common to all G3VM models.