■Absolute Maximum Ratings (Ta = 25°C)

●Standard type, High senstive type

Item		Symbol	G3VM-41AY1 G3VM-41DY1 G3VM-41AY G3VM-41DY	G3VM-61AY1 G3VM-61DY1 G3VM-61AY G3VM-61DY	G3VM-201AY1 G3VM-201DY1 G3VM-201AY G3VM-201DY	G3VM-351AY1 G3VM-351DY1 G3VM-351AY G3VM-351DY	G3VM-401AY1 G3VM-401DY1 G3VM-401AY G3VM-401DY	G3VM-601AY1 G3VM-601DY1 G3VM-601AY G3VM-601DY	Unit	Measurement conditions
Input	LED forward current	I_F	30						mA	
	Repetitive peak LED forward current	I_{FP}	1						A	100 μs pulses, 100 pps
	LED forward current reduction rate	ΔI_F/°C	-0.3						mA/°C	Ta≥25°C
	LED reverse voltage	V_R	5						V	
	Connection temperature	T_J	125						°C	
Output	Load voltage (AC peak/DC)	V_{OFF}	40	60	200	350	400	600	V	
	Continuous load current (AC peak/DC)	I_O	2,000	500	250	100	120	90	mA	
	ON current reduction rate	ΔI_O/°C	-20	-5	-2.5	-1	-1.2	-0.9	mA/°C	Ta≥25°C
	Pulse ON current	Iop	6	1.5	0.75	0.3	0.36	0.27	A	t=100ms, Duty=1/10
	Connection temperature	T_J	125						°C	
Dielectric strength between I/O ✻		V_{I-O}	5,000						Vrms	AC for 1 min
Ambient operating temperature		Ta	-40~+85						°C	With no icing or condensation
Ambient storage temperature		Tstg	-55~+125						°C	
Soldering temperature		–	260						°C	10s

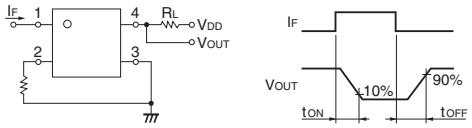
✻ The dielectric strength between the input and output was checked by applying voltage between all pins as a group on the LED side and all pins as a group on the light-receiving side.

■Electrical Characteristics (Ta = 25°C)

●Standard type

Item		Symbol		G3VM-41AY1 G3VM-41DY1	G3VM-61AY1 G3VM-61DY1	G3VM-201AY1 G3VM-201DY1	G3VM-351AY1 G3VM-351DY1	G3VM-401AY1 G3VM-401DY1	G3VM-601AY1 G3VM-601DY1	Unit	Measurement conditions
Input	LED forward voltage	V_F	Minimum	1.1						V	I_F=10mA
			Typical	1.27							
			Maximum	1.4							
	Reverse current	I_R	Maximum	10						μA	V_R=5V
	Capacity between terminals	C_T	Typical	50						pF	V=0, f=1MHz
	Trigger LED forward current	I_{FT}	Minimum	0.5	0.6				0.5	mA	G3VM-41AY1/DY1 : I_O=1A Others : I_O=Continuous load current ratings
			Maximum	3							
	Release LED forward current	I_{FC}	Minimum	0.1						mA	I_{OFF}=10μA
Output	Maximum resistance with output ON	R_{ON}	Typical	0.09(0.06)	0.6	5	35(25)	22(17)	45(30)	Ω	I_F=5mA, I_O=Continuous load current ratings (value at t<1s)
			Maximum	0.15(0.10)	2	8	50(35)	35(28)	60(40)		
	Current leakage when the relay is open	I_{LEAK}	Maximum	1						μA	V_{OFF}=Load voltage ratings
	Capacity between terminals	C_{OFF}	Typical	300	130	90	30	80	75	pF	V=0, f=1MHz
Capacity between I/O terminals		C_{I-O}	Typical	0.8						pF	f=1MHz, V_S=0V
Insulation resistance between I/O terminals		R_{I-O}	Minimum	1000						MΩ	V_{I-O}=500VDC, RoH≤60%
			Typical	10^8							
Turn-ON time		t_{ON}	Typical	2.8	1		0.3	0.6	0.5	ms	G3VM-41AY1/DY1 : R_L=200Ω, I_F=10mA, V_{DD}=20V G3VM-601AY1/DY1 : R_L=200Ω, I_F=5mA, V_{DD}=10V Others : R_L=200Ω, I_F=5mA, V_{DD}=20V ✻
			Maximum	5	3		2				
Turn-OFF time		t_{OFF}	Typical	0.3	0.2	0.1		0.2			
			Maximum	1							

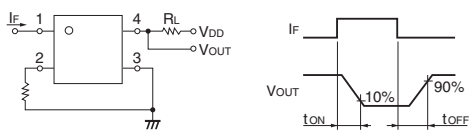
✻ Turn-ON and Turn-OFF Times



●High sensitive type

Item		Symbol		G3VM-41AY G3VM-41DY	G3VM-61AY G3VM-61DY	G3VM-201AY G3VM-201DY	G3VM-351AY G3VM-351DY	G3VM-401AY G3VM-401DY	G3VM-601AY G3VM-601DY	Unit	Measurement conditions
Input	LED forward voltage	V_F	Minimum	1.45						V	I_F=10mA
			Typical	1.63							
			Maximum	1.75							
	Reverse current	I_R	Maximum	10						μA	V_R=5V
	Capacity between terminals	C_T	Typical	40						pF	V=0, f=1MHz
	Trigger LED forward current	I_{FT}	Minimum	0.3						mA	G3VM-41AY/DY : I_O=1A Others : I_O=Continuous load current ratings
			Maximum	2							
	Release LED forward current	I_{FC}	Minimum	0.1						mA	I_{OFF}=10μA
Output	Maximum resistance with output ON	R_{ON}	Typical	0.09(0.06)	0.6	5	35(25)	22(17)	45(30)	Ω	I_F=5mA, I_O=Continuous load current ratings (value at t<1s)
			Maximum	0.15(0.10)	2	8	50(35)	35(28)	60(40)		
	Current leakage when the relay is open	I_{LEAK}	Maximum	1						μA	V_{OFF}=Load voltage ratings
	Capacity between terminals	C_{OFF}	Typical	300	130	90	30	80	75	pF	V=0, f=1MHz
Capacity between I/O terminals		C_{I-O}	Typical	0.8						pF	f=1MHz, V_S=0V
Insulation resistance between I/O terminals		R_{I-O}	Minimum	1000						MΩ	V_{I-O}=500VDC, RoH≤60%
			Typical	10^8							
Turn-ON time		t_{ON}	Typical	2	0.5		0.1	0.2		ms	G3VM-601AY/DY : R_L=200Ω, I_F=5mA, V_{DD}=10V Others : R_L=200Ω, I_F=5mA, V_{DD}=20V ✻
			Maximum	5	1						
Turn-OFF time		t_{OFF}	Typical	0.3	0.2						
			Maximum	1							

✻ Turn-ON and Turn-OFF Times



■Recommended Operating Conditions

For usage with high reliability, Recommended Operation Conditions is a measure that takes into account the derating of Absolute Maximum Ratings and Electrical Characteristics.
Each item on this list is an independent condition, so it is not simultaneously satisfy several conditions.

●Standard type

Item	Symbol		G3VM-41AY1 G3VM-41DY1	G3VM-61AY1 G3VM-61DY1	G3VM-201AY1 G3VM-201DY1	G3VM-351AY1 G3VM-351DY1	G3VM-401AY1 G3VM-401DY1	G3VM-601AY1 G3VM-601DY1	Unit
Load voltage (AC peak/DC)	V_{DD}	Maximum	32	48	160	280	320	480	V
Operating LED forward current	I_F	Minimum	5						mA
		Typical	7.5						
		Maximum	25						
Continuous load current (AC peak/DC)	I_O	Maximum	2000	500	250	100	120	90	
Ambient operating temperature	Ta	Minimum	-20						°C
		Maximum	65						

●High sensitive type

Item	Symbol		G3VM-41AY G3VM-41DY	G3VM-61AY G3VM-61DY	G3VM-201AY G3VM-201DY	G3VM-351AY G3VM-351DY	G3VM-401AY G3VM-401DY	G3VM-601AY G3VM-601DY	Unit
Load voltage (AC peak/DC)	V_{DD}	Maximum	32	48	160	280	320	480	V
Operating LED forward current	I_F	Minimum	3						mA
		Typical	5						
		Maximum	15		20				
Continuous load current (AC peak/DC)	I_O	Maximum	2000	500	250	100	120	90	
Ambient operating temperature	Ta	Minimum	-20						°C
		Maximum	65						

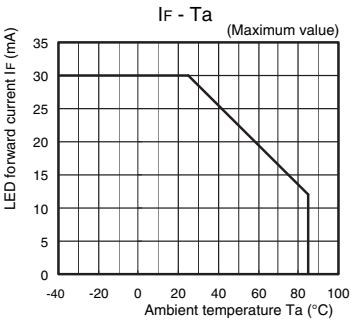
■Spacing and Insulation

●Standard type and High sensitive type

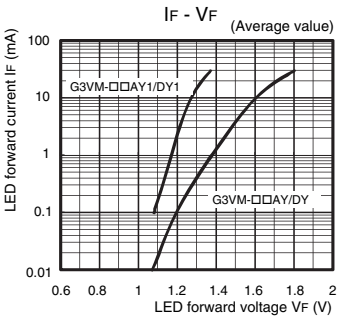
Item		Standard	Unit
Creepage distances	Minimum	7.0	mm
Clearance distances	Minimum	7.0	
Internal isolation thickness	Minimum	0.4	

■Engineering Data

●LED forward current vs. Ambient temperature

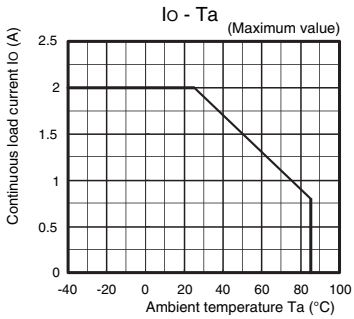


●LED forward current vs. LED forward voltage

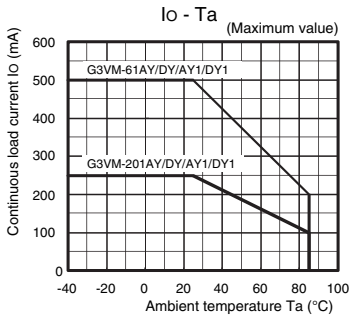


●Continuous load current vs. Ambient temperature

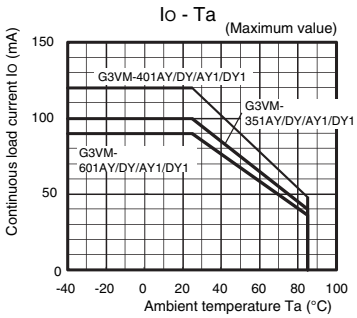
G3VM-41AY/DY/AY1/DY1



G3VM-61AY/DY/AY1/DY1
G3VM-201AY/DY/AY1/DY1

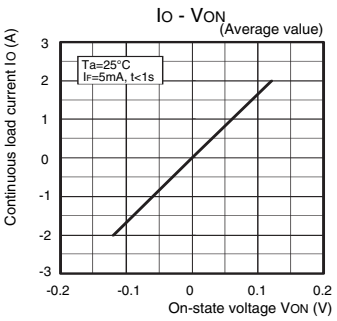


G3VM-351AY/DY/AY1/DY1
G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

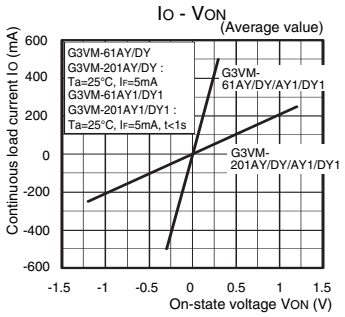


●Continuous load current vs. On-state voltage

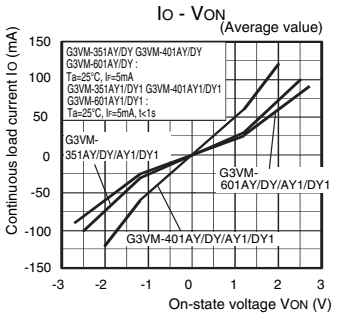
G3VM-41AY/DY/AY1/DY1



G3VM-61AY/DY/AY1/DY1
G3VM-201AY/DY/AY1/DY1

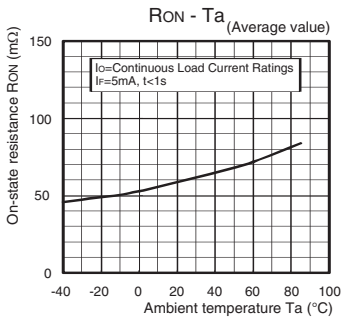


G3VM-351AY/DY/AY1/DY1
G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

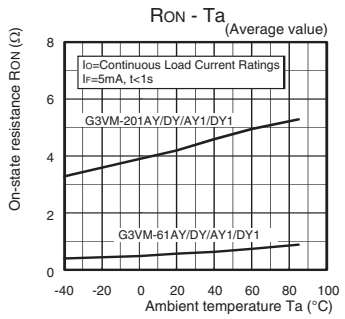


●On-state resistance vs. Ambient temperature

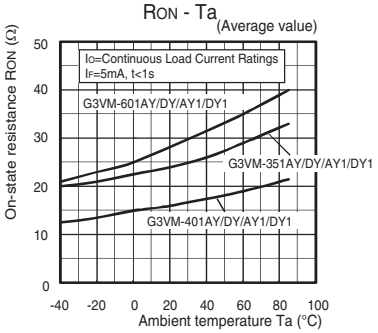
G3VM-41AY/DY/AY1/DY1



G3VM-61AY/DY/AY1/DY1
G3VM-201AY/DY/AY1/DY1



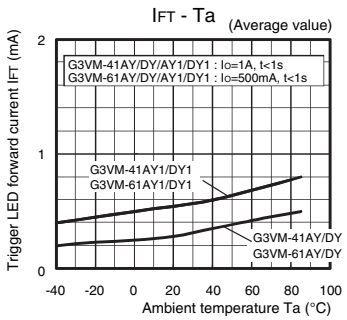
G3VM-351AY/DY/AY1/DY1
G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1



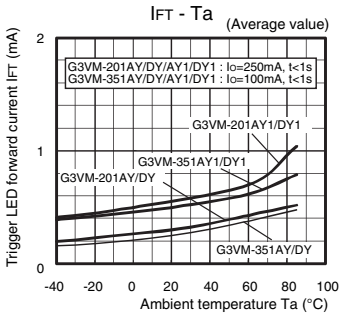
■Engineering Data

●Trigger LED forward current vs. Ambient temperature

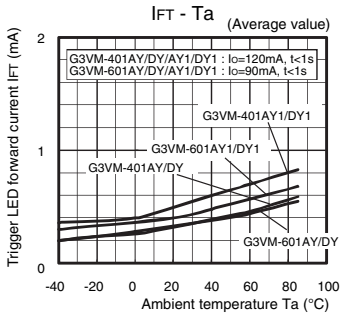
G3VM-41AY/DY/AY1/DY1
G3VM-61AY/DY/AY1/DY1



G3VM-201AY/DY/AY1/DY1
G3VM-351AY/DY/AY1/DY1

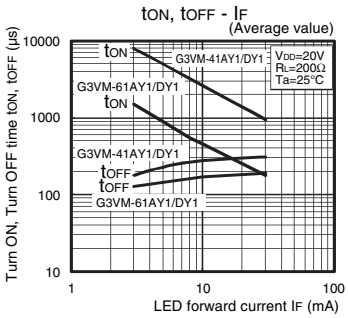


G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

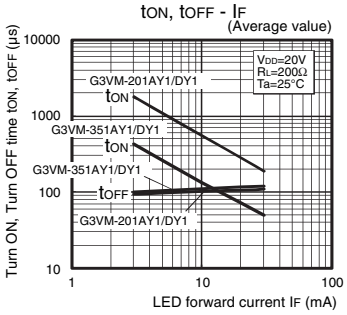


●Turn ON, Turn OFF time vs. LED forward current

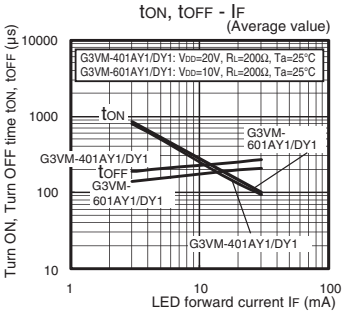
G3VM-41AY1/DY1
G3VM-61AY1/DY1



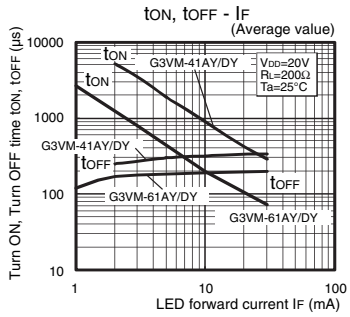
G3VM-201AY1/DY1
G3VM-351AY1/DY1



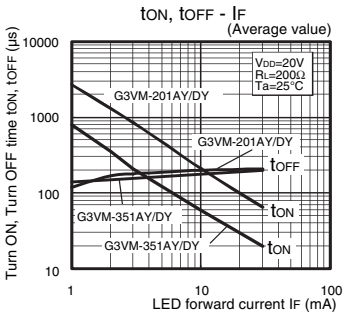
G3VM-401AY1/DY1
G3VM-601AY1/DY1



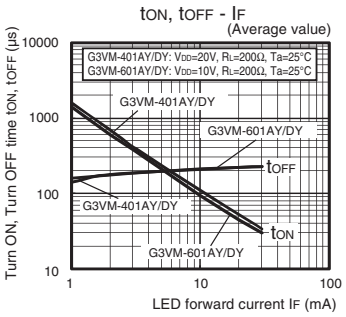
G3VM-41AY/DY
G3VM-61AY/DY



G3VM-201AY/DY
G3VM-351AY/DY

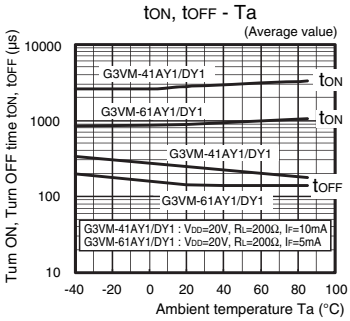


G3VM-401AY/DY
G3VM-601AY/DY

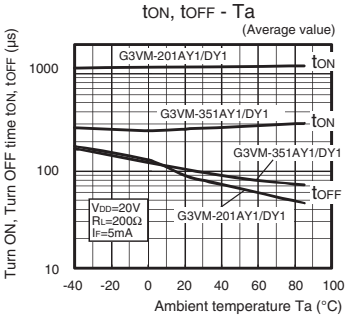


●Turn ON, Turn OFF time vs. Ambient temperature

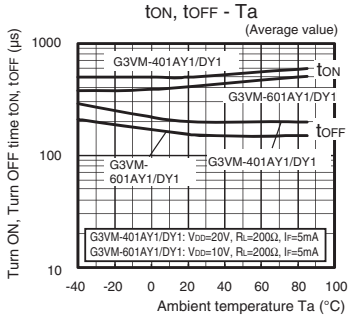
G3VM-41AY1/DY1
G3VM-61AY1/DY1



G3VM-201AY1/DY1
G3VM-351AY1/DY1



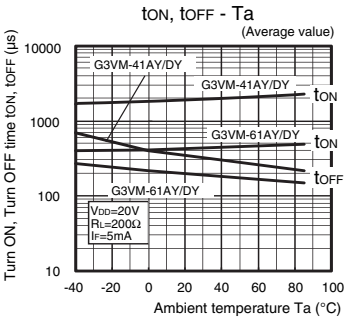
G3VM-401AY1/DY1
G3VM-601AY1/DY1



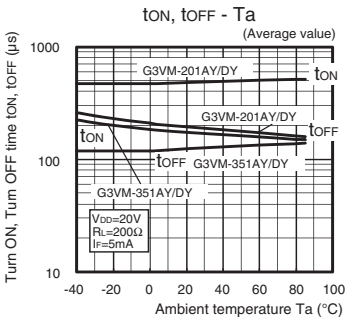
■Engineering Data

●Turn ON, Turn OFF time vs. Ambient temperature

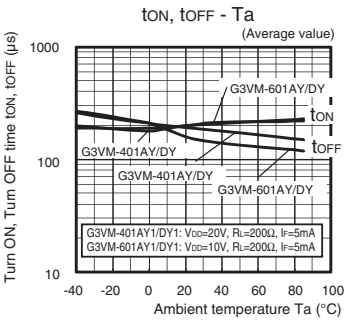
G3VM-41AY1/DY1
G3VM-61AY1/DY1



G3VM-201AY/DY
G3VM-351AY/DY

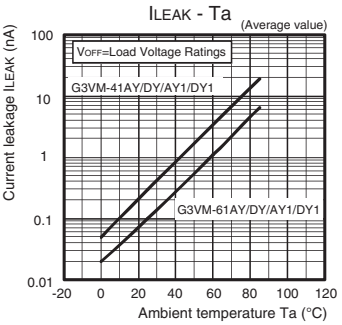


G3VM-401AY/DY
G3VM-601AY/DY

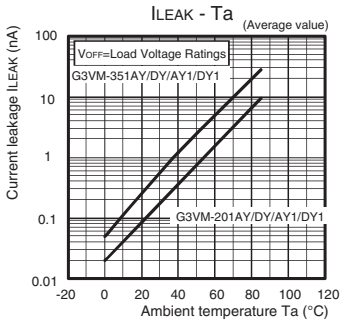


●Current leakage vs. Ambient temperature

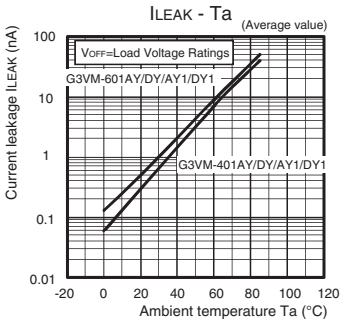
G3VM-41AY/DY/AY1/DY1
G3VM-61AY/DY/AY1/DY1



G3VM-201AY/DY/AY1/DY1
G3VM-351AY/DY/AY1/DY1



G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

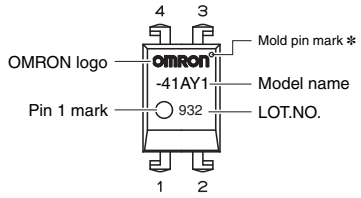


■Apperance/Terminal Arrangement/Internal Connections

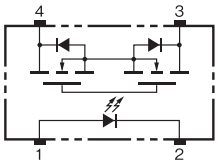
■Apperance

DIP (Dual Inline Package)

DIP4



■ Terminal Arrangement/Internal Connections



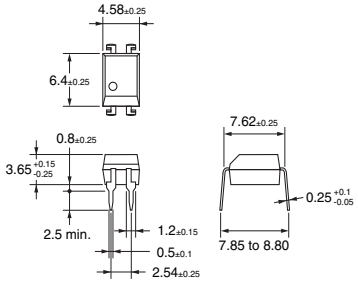
Note: The actual product is marked differently from the image shown here.

✻ The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

■Dimensions (Unit: mm)

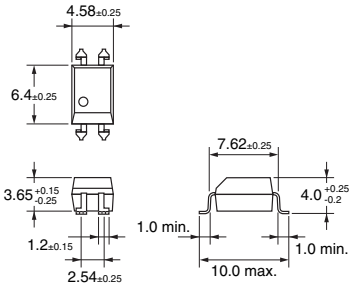
PCB Terminals

Weight: 0.25 g

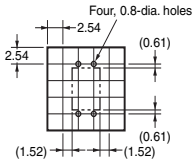


Surface-mounting Terminals

Weight: 0.25 g

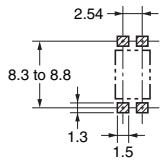


PCB Dimensions (BOTTOM VIEW)



Actual Mounting Pad Dimensions

(Recommended Value, TOP VIEW)



Note: The actual product is marked differently from the image shown here.

■Approved Standards

UL recognized

●Standard type and High sensitive type

Approved Standards	Contact form	File No.
UL recognized	1a (SPST-NO)	E80555

■Safety Precautions

• Refer to "**Common Precautions**" for all G3VM models.

Please check each region's Terms & Conditions by region website.

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