

MOS FET Relays

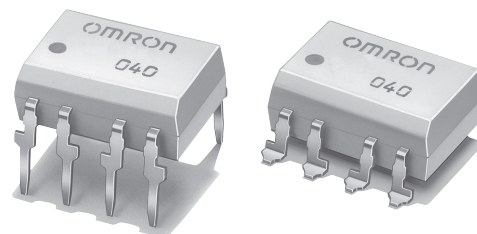
G3VM-355C/CR/F/FR

MOS FET Relay with Both SPST-NO and SPST-NC Contacts Incorporated in a Single DIP Package. General-purpose Models Added.

- SPST-NO/SPST-NC models included in the 350-V load series.
- Continuous load current of 120 mA.
- Dielectric strength of 2,500 Vrms between I/O.
- General-purpose models (high ON resistance) added.
- RoHS Compliant.

Application Examples

- Measurement devices
- Security systems
- Amusement machines



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

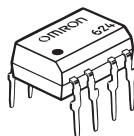
List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO/ SPST-NC	PCB terminals	350 VAC	G3VM-355CR	50	---
	Surface-mounting terminals		G3VM-355C		
			G3VM-355FR		
			G3VM-355F		
			G3VM-355FR(TR)	---	1,500
			G3VM-355F(TR)		

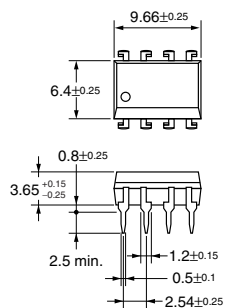
Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-355C/CR

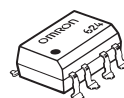


Note: The actual product is marked differently from the image shown here.

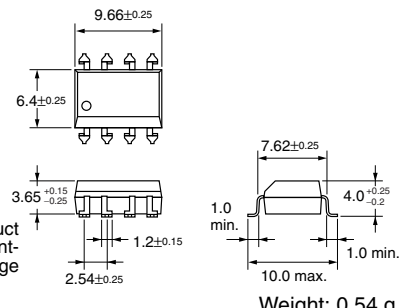


Weight: 0.54 g

G3VM-355F/FR



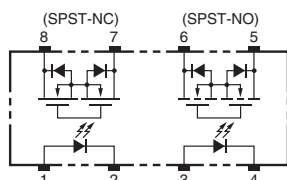
Note: The actual product is marked differently from the image shown here.



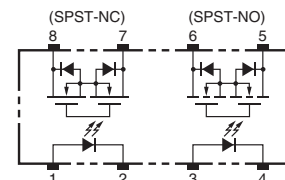
Weight: 0.54 g

Terminal Arrangement/Internal Connections (Top View)

G3VM-355C/CR

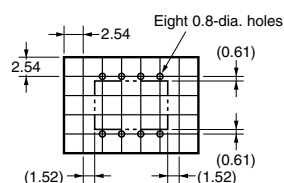


G3VM-355F/FR



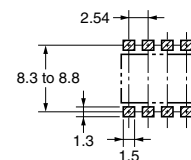
PCB Dimensions (Bottom View)

G3VM-355C/CR



Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-355F/FR



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
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C
	LED reverse voltage	V_R	5	V
	Connection temperature	T_j	125	°C
Output	Load voltage (AC peak/DC)	V_{OFF}	350	V
	Continuous load current (AC peak/DC)	I_O	120 (100)	mA
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-1.2 (-1)	mA/°C
	Connection temperature	T_j	125	°C
Dielectric strength between input and output (See note 1.)		V_{I-O}	2,500	V_{rms}
Operating temperature		T_a	-40 to +85	°C
Storage temperature		T_{slg}	-55 to +125	°C
Soldering temperature (10 s)		---	260	°C
				10 s

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.

Values in parentheses are for the G3VM-355C/F

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
	Reverse current	I_R	---	---	10	μA
	Capacity between terminals	C_T	---	30	---	pF
	Trigger LED forward current	I_{FT}	---	1	3	mA
Output	Maximum resistance with output ON	R_{ON}	15 (40)	25 (50)	Ω	SPST-NO: $I_F = 5 \text{ mA}$, $I_O = 120 \text{ mA}$ (100 mA)
						SPST-NC: $I_F = 0 \text{ mA}$, $I_O = 120 \text{ mA}$ (100 mA)
						SPST-NC: $I_F = 0 \text{ mA}$, $I_O = 120 \text{ mA}$ (100 mA)
	Current leakage when the relay is open	I_{LEAK}	---	0.0015 NO (0.006) 0.0105 NC (0.003)	1.0	μA
						$V_{OFF} = 350 \text{ V}$
Capacity between terminals		C_{OFF}	---	65 (30)	---	pF
Capacity between I/O terminals		C_{I-O}	---	0.8	---	pF
Insulation resistance		R_{I-O}	1,000	---	---	$M\Omega$
Turn-ON time		t_{ON}	---	0.18 (0.3)	1.0 (1.0)	ms
Turn-OFF time		t_{OFF}	---	0.11 (0.15)	1.0 (1.0)	ms
						$I_F = 5 \text{ mA}$, $R_L = 200 \Omega$, $V_{DD} = 20 \text{ V}$ (See note 2.)

Values in parentheses are for the G3VM-355C/F

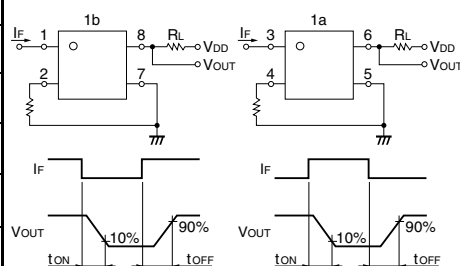
Recommended Operating Conditions

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

Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	---	---	280	V
Operating LED forward current	I_F	5	---	25	mA
Continuous load current (AC peak/DC)	I_O	---	---	120 (100)	mA
Operating temperature	T_a	-20	---	65	°C

Values in parentheses are for the G3VM-355C/F

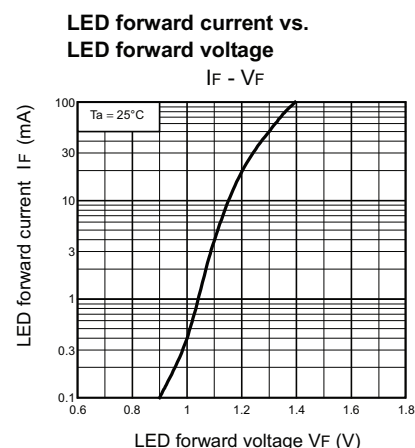
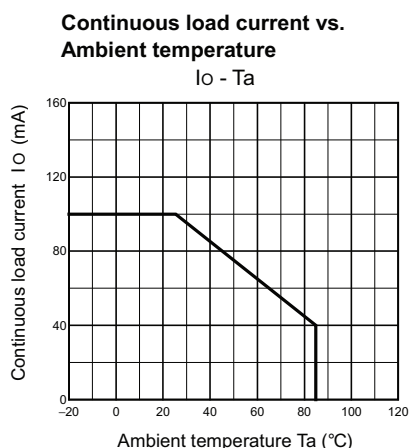
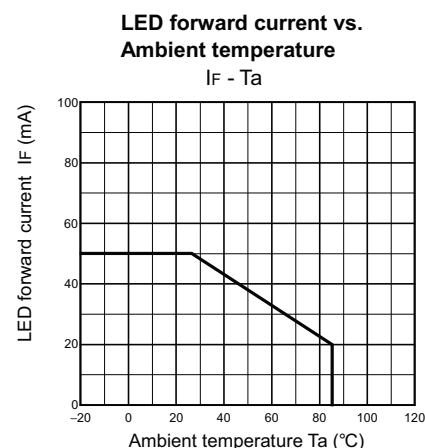
Note: 2. Turn-ON and Turn-OFF Times



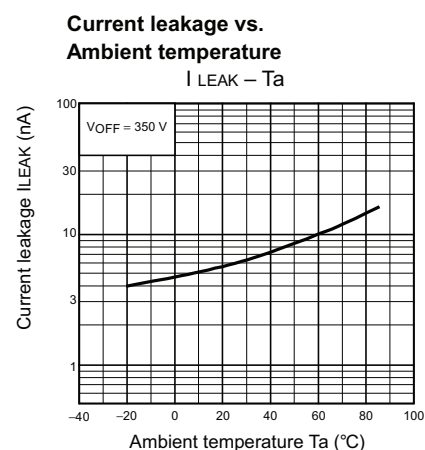
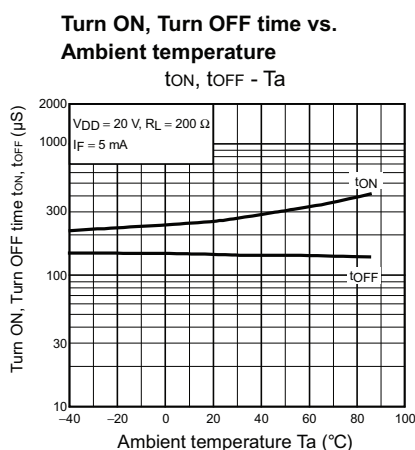
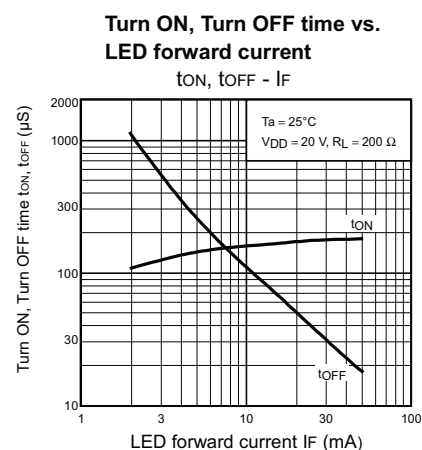
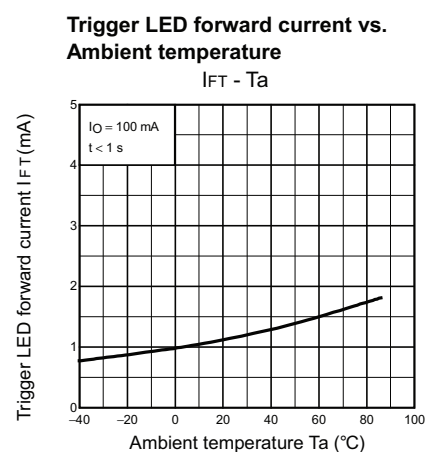
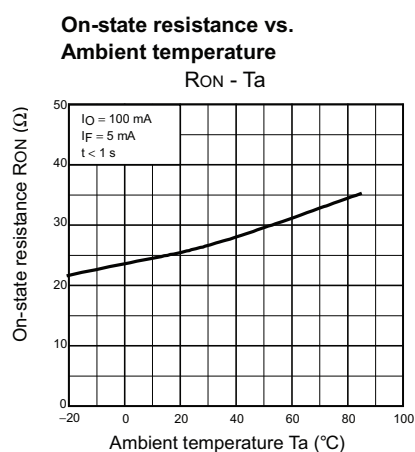
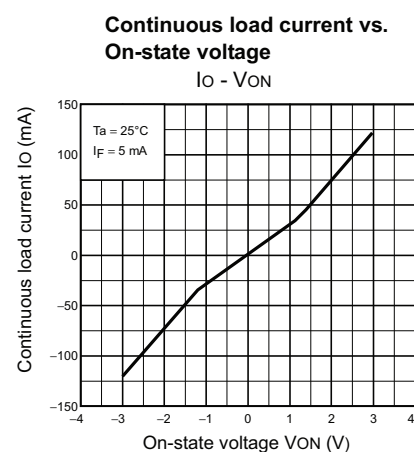
Engineering Data

G3VM-355C/F

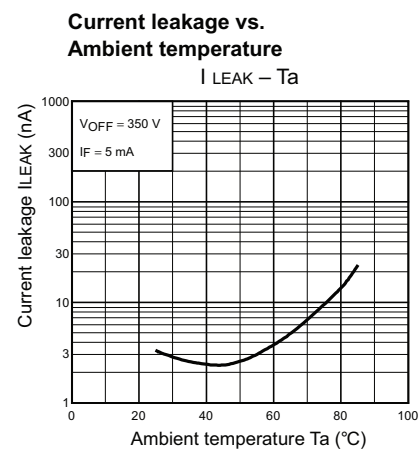
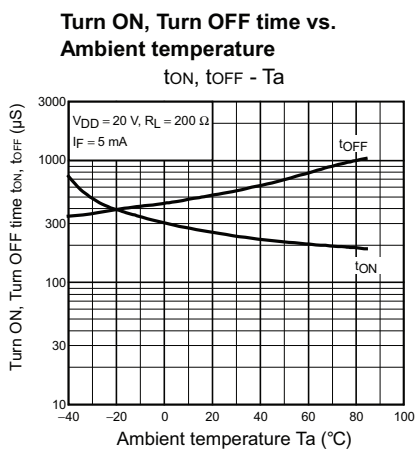
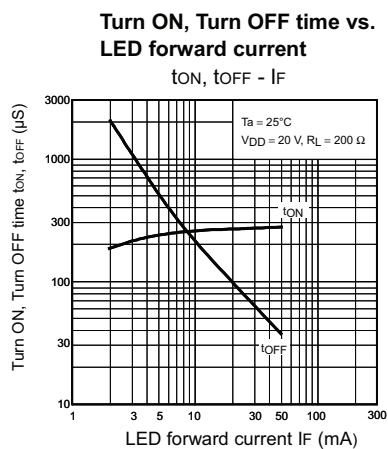
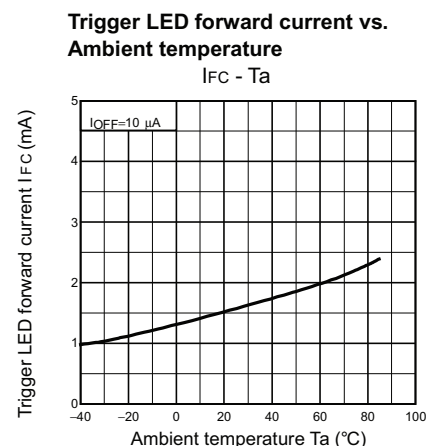
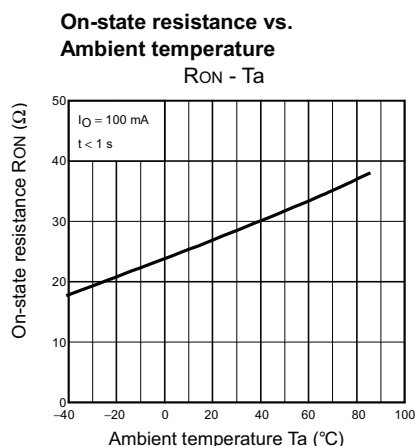
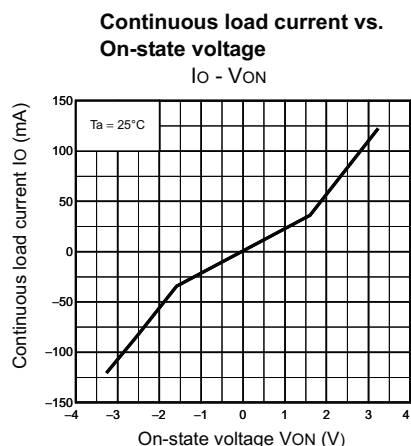
Common Characteristics; SPST-NO / SPST-NC



Characteristics; SPST-NO



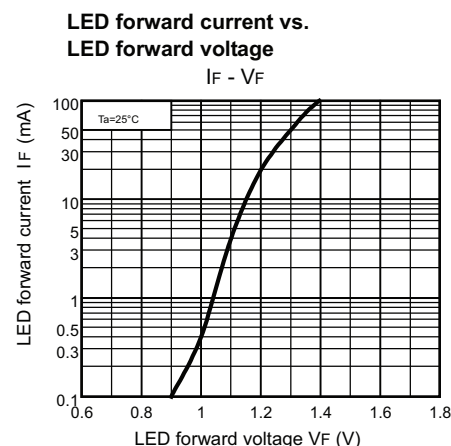
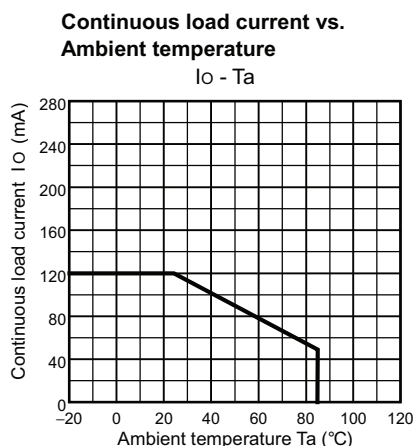
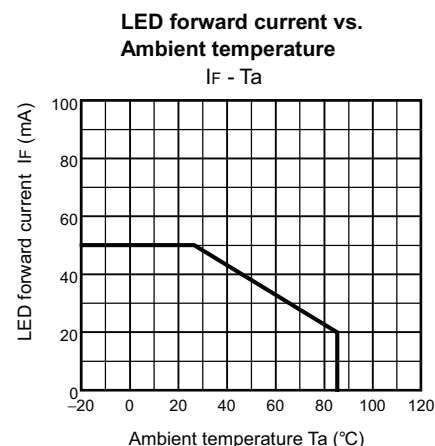
■ Engineering Data
G3VM-355C/F (continued)
Characteristics; SPST-NC



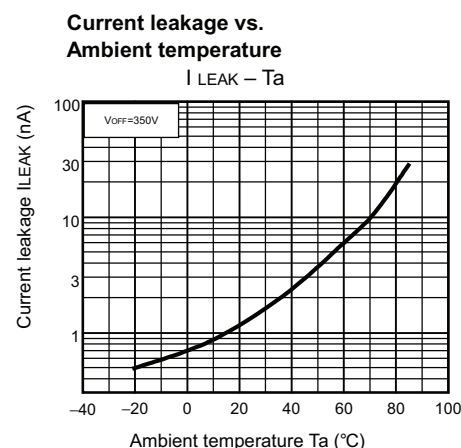
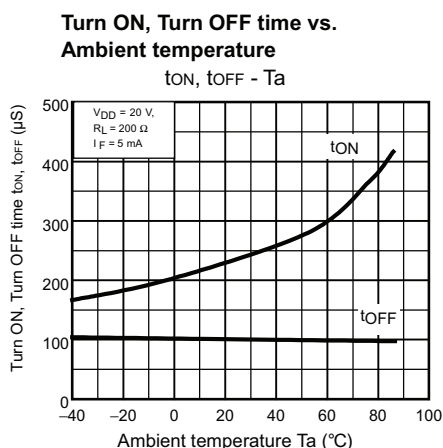
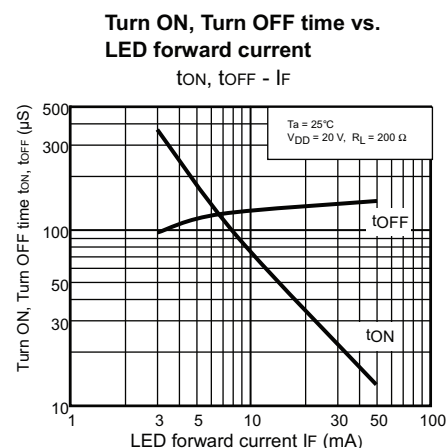
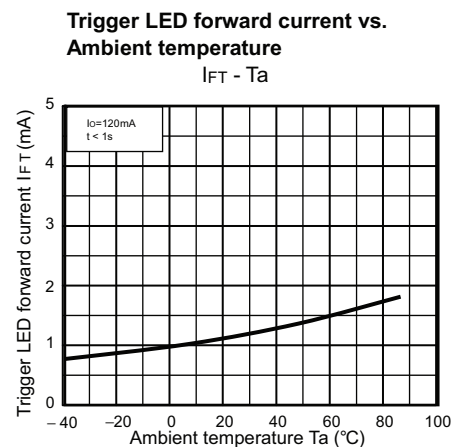
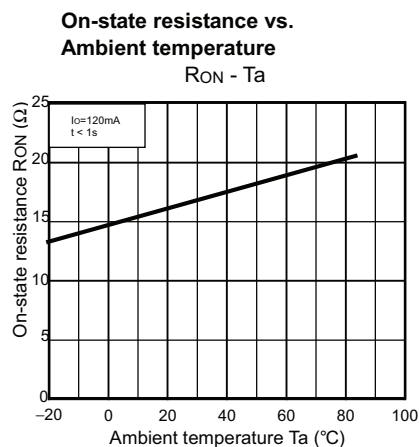
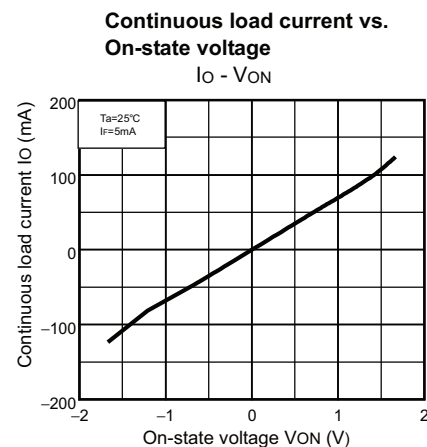
■ Engineering Data

G3VM-355CR/FR

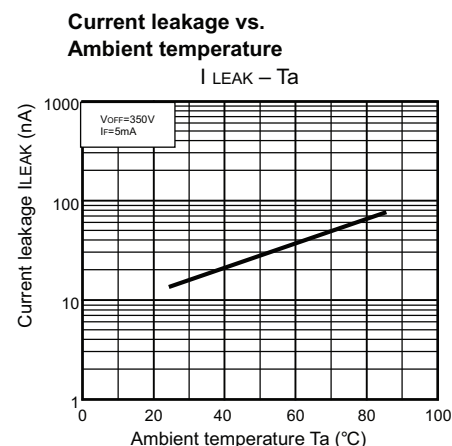
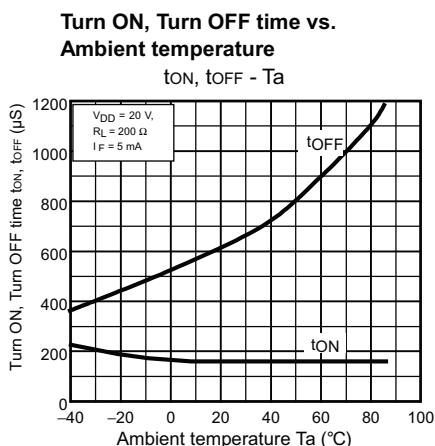
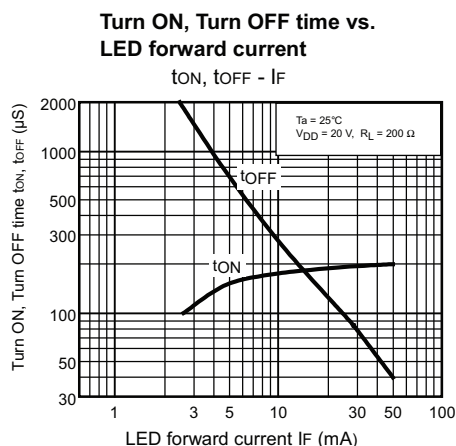
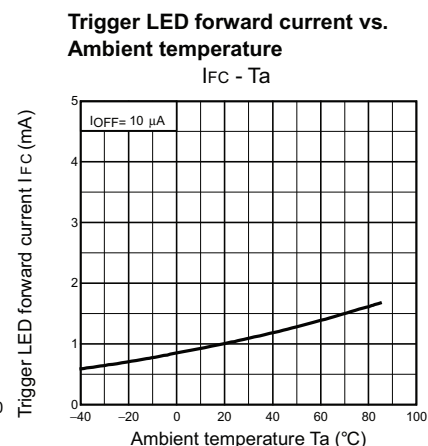
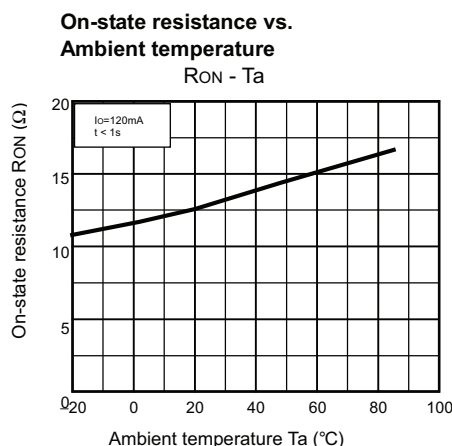
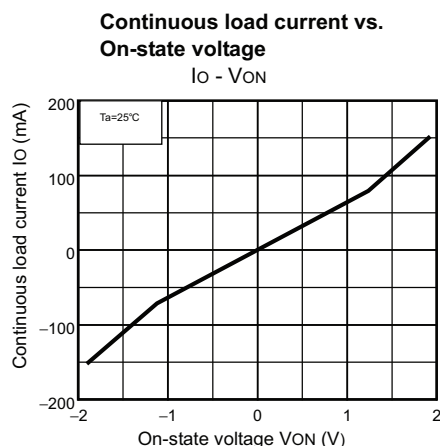
Common Characteristics; SPST-NO / SPST-NC

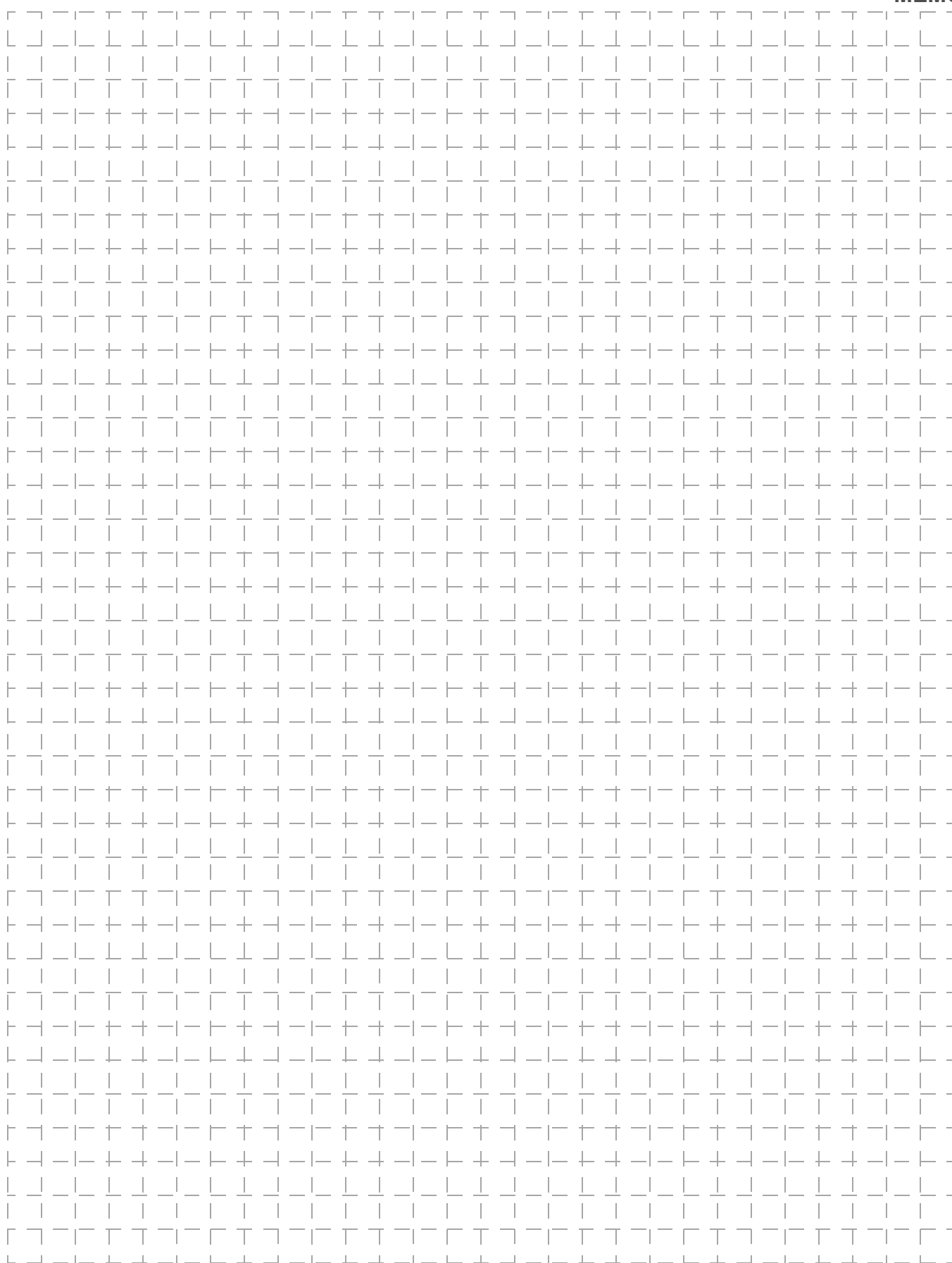


Characteristics; SPST-NO



■ Engineering Data
G3VM-355CR/FR (continued)
Characteristics; SPST-NC





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