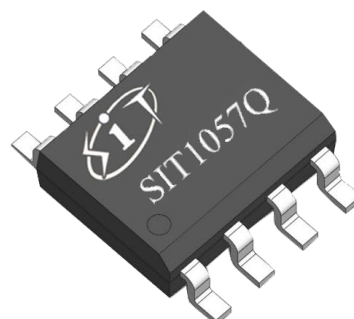


**FEATURES**

- Fully compatible with the ISO 11898-2:2016 standard
- Thermally protected
- AEC-Q100 qualified
- $\pm 40V$  BUS Protection
- Transmit Data (TXD) dominant time-out function
- silent mode
- SIT1057QT/3 and SIT1057QTK/3 can be interfaced directly to microcontrollers with supply voltages from 3.3V to 5V
- Under-voltage protection
- Timing guaranteed for data rates up to 5 Mbps in the (CAN FD) fast phase
- Very low ElectroMagnetic Emission (EME)
- Transceiver in unpowered state disengages from the bus (zero load)
- The typical loop delay from TXD to RXD is less than 100ns
- Provide DFN3\*3-8, small outline, leadless package

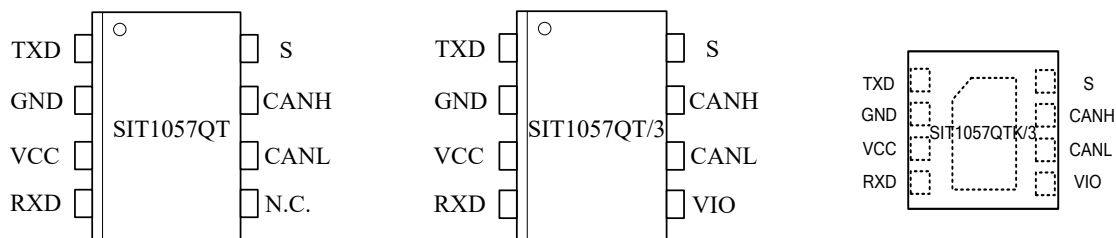
**PRODUCT APPEARANCE**


Provide Green and Environmentally  
Friendly Lead-free package

**DESCRIPTION**

The SIT1057Q is an interface chip used between the CAN protocol controller and the physical bus. It can be used in trucks, buses, cars, industrial control and other fields. It supports 5Mbps (CAN FD) flexible data rate, and has a connection between the bus and the CAN protocol controller. The ability to perform differential signal transmission between the bus and the CAN protocol controller.

PARAMETER	SYMBOL	CONDITION	MIN.	MAX.	UNIT
Supply voltage	VCC		4.75	5.25	V
VIO voltage	VIO		2.95	5.25	V
Maximum transmission rate	$1/t_{bit}$	Non-return to zero code	5		Mbaud
CANH/CANL input or output voltage	$V_{can}$		-40	+40	V
Bus differential voltage	$V_{diff}$		1.5	3.0	V
Virtual junction temperature	$T_j$		-40	150	°C

**PIN CONFIGURATION**

**PIN DESCRIPTION**

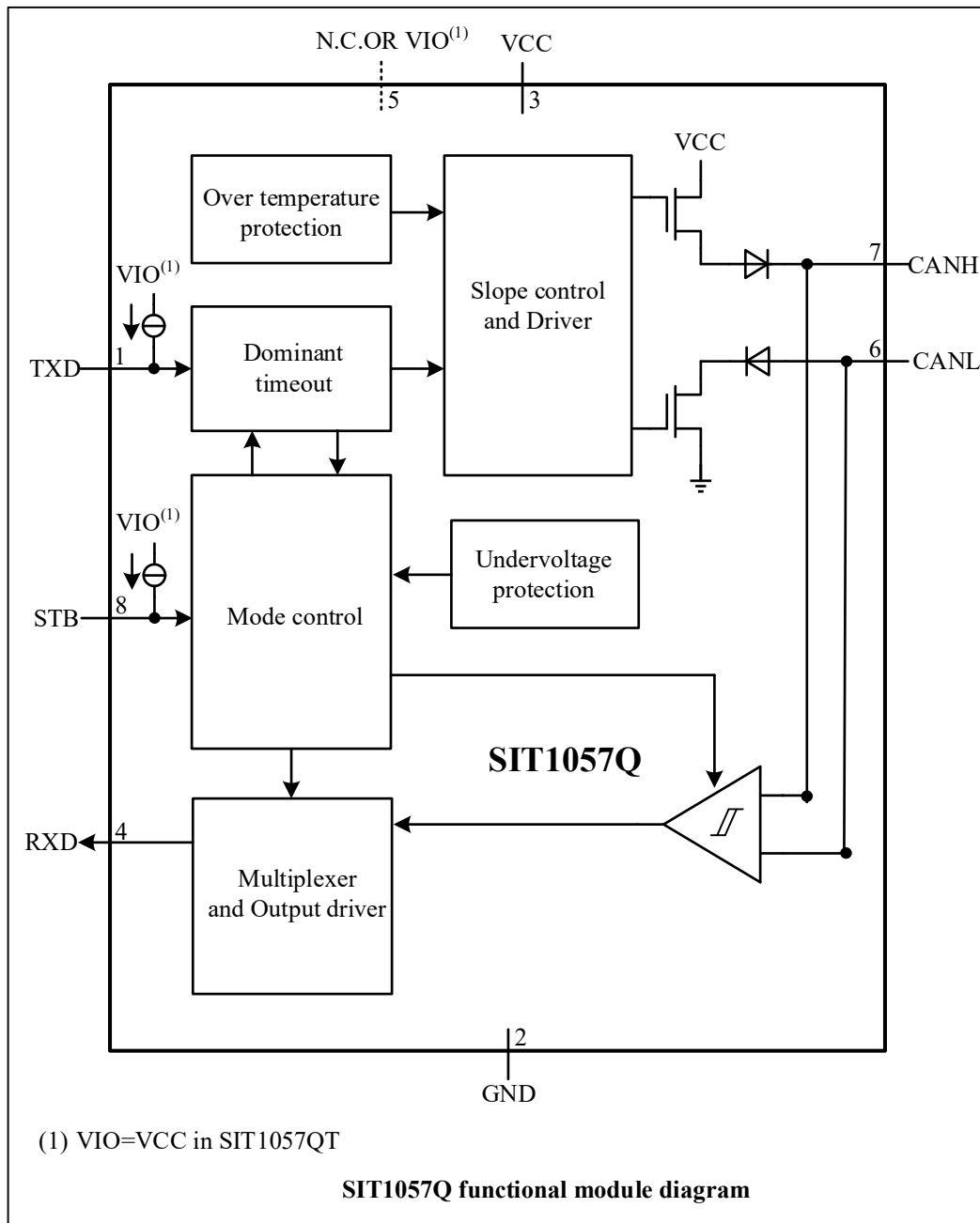
PIN	SYMBOL	DESCRIPTION
1	TXD	transmit data input
2	GND	ground
3	VCC	supply voltage
4	RXD	receive data output; reads out data from the bus lines
5	VIO	transceiver I/O level conversion power supply voltage (SIT1057QT/3 and SIT1057QTK/3)
5	N.C.	not connected (SIT1057QT)
6	CANL	LOW-level CAN bus line
7	CANH	HIGH-level CAN bus line
8	STB	High-speed and silent mode selection, low level is high-speed

Note: The metal pad on the back of the SIT1057QTK/3 package is recommended to be grounded.

**LIMITING VALUES**

PARAMETER	SYMBOL	VALUE	UNIT
Supply voltage	VCC	-0.3~+7	V
MCU side port	TXD, RXD, STB, VIO	-0.3~+7	V
Bus side input voltage	CANL, CANH	-40~+40	V
Bus differential breakdown voltage	$V_{CANH-CANL}$	-27~27	V
Storage temperature	$T_{stg}$	-55~150	°C
Virtual junction temperature	$T_j$	-40~150	°C
Welding temperature		300	°C

The maximum limit parameters mean that exceeding these values may cause irreversible damage to the device. Under these conditions, it is not conducive to the normal operation of the device. The continuous operation of the device at the maximum allowable rating may affect the reliability of the device. The reference point for all voltages is ground.

**FUNCTIONAL BLOCK DIAGRAM**


**DRIVER ELECTRICAL CHARACTERISTICS**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
CANH dominant output voltage	$V_{OH(D)}$	TXD=0V, STB=0V, $R_L=50\Omega$ to $65\Omega$ , Fig 1, Fig 2	2.75	3.5	4.5	V
CANL dominant output voltage	$V_{OL(D)}$		0.5	1.5	2.25	V
Bus dominant differential output voltage	$V_{OD(D)}$	TXD=0V, STB=0V, $t < t_{dom\_TXD}$ .				
		$R_L=50\Omega$ to $65\Omega$	1.5		3	V
		$R_L=45\Omega$ to $70\Omega$	1.4		3.3	
		$R_L=2240\Omega$	1.5		5	
Bus recessive output voltage	$V_{O(R)}$	STB=0V; TXD=VIO; no load	2	0.5VCC	3	V
Bus recessive differential output voltage	$V_{OD(R)}$	TXD=VIO, STB=0V, no load	-0.5		0.05	V
Transmitter dominant voltage symmetry	$V_{dom(TX)sym}$	$V_{dom(TX)sym}=VCC - V_{CANH} - V_{CANL}$	-400		400	mV
Transmitter voltage symmetry	$V_{TXsym}$	$V_{TXsym}=V_{CANH}+V_{CANL}$ (1); $f_{TXD}=250kHz, 1MHz$ or $2.5MHz$ ; $C_{SPLIT}=4.7nF$ , Fig.7	0.9VCC		1.1VCC	V
Common-mode output voltage	$V_{OC}$	STB=0V, Fig.2	2	0.5VCC	3	V
Dominant short-circuit output current	$I_{OS\_dom}$	VTXD=0V; $t < t_{dom\_TXD}$ ; VCC=5V.				
		Pin CANH; CANH= -15V to 40V	-100		100	mA
		Pin CANL; CANL= -15V to 40V	-100		100	mA
Recessive short-circuit output current	$I_{O(R)}$	TXD=VIO; -27V< CANH=CANL<32V	-5		5	mA

(1) Not tested in production; guaranteed by design.

(VCC=5V±5% and Temp=T<sub>MIN</sub>~T<sub>MAX</sub> unless specified otherwise; typical in VCC=+5V, VIO=+5V and Temp=25°C).

## DRIVER SWITCHING CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Driver timing; pins CANH, CANL, RXD; see Fig 3 and Fig 5 and Fig 6; $R_L=60\Omega$ ; $C_L=100pF$ ; $C_{RXD}=15pF$ .						
Propagation delay time, TXD to bus recessive	$t_{d(TXD\_busrec)}$	STB=0V, Fig 3, Fig 6		90		ns
Propagation delay time, TXD to bus dominant	$t_{d(TXD\_busdom)}$	STB=0V, Fig 3, Fig 6		65		ns
Differential output signal rise time	$t_r$	STB=0V, Fig 3, Fig 6		45		ns
Differential output signal fall time	$t_f$	STB=0V, Fig 3, Fig 6		45		ns
TXD dominant time-out	$t_{dom\_TXD}$	Fig 4	0.8	3	6.5	ms

( $V_{CC}=5V\pm 5\%$  and  $Temp=T_{MIN}\sim T_{MAX}$  unless specified otherwise; typical in  $V_{CC}=+5V$ ,  $V_{IO}=+5V$  and  $Temp=25^\circ C$ ).

## RECEIVER ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Positive-going input threshold voltage	$V_{TH+\_dif}$	Normal mode/ silent mode $-12V \leq CANL \leq +12V$ $-12V \leq CANH \leq +12V$			900	mV
Negative-going input threshold voltage	$V_{TH-\_dif}$	Normal mode;/ silent mode $-12V \leq CANL \leq +12V$ $-12V \leq CANH \leq +12V$	500			mV
Hysteresis voltage ( $V_{TH+\_dif} - V_{TH-\_dif}$ )	$V_{HYS}$	Normal mode/ silent mode; $-12V \leq CANL \leq +12V$ $-12V \leq CANH \leq +12V$		120		mV
Receiver dominant differential input voltage	$V_{dom\_Diff}$	Normal mode/ silent mode; $-12V \leq CANL \leq +12V$ $-12V \leq CANH \leq +12V$	0.9		8.0	V
Receiver recessive differential input voltage	$V_{rec\_Diff}$	Normal mode/ silent mode $-12V \leq CANL \leq +12V$	-3		0.5	V

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
		$-12\text{ V} \leq \text{CANH} \leq +12\text{ V}$				
Power-off bus input current	$I_{(\text{OFF})}$	$\text{CANH}=\text{CANL}=5\text{ V}$ , $\text{GND}=\text{VCC}=\text{VIO}=0\text{ V}$	-5		5	$\mu\text{A}$
Input capacitance to ground, (CANH or CANL)	$C_1$	[1]			24	pF
Differential input capacitance	$C_{\text{ID}}$	[1]			12	pF
Slew Rate	SR	Edge dominant to recessive <sup>(1)</sup>			70	$\text{V}/\mu\text{s}$
Input resistance, (CANH or CANL)	$R_{\text{IN}}$	$\text{TXD}=\text{VIO}$ , $\text{STB}=0\text{ V}$ ; <sup>(1)</sup> $-2\text{ V} \leq \text{CANL} \leq +7\text{ V}$	9	15	28	$\text{k}\Omega$
Differential input resistance	$R_{\text{ID}}$	$-2\text{ V} \leq \text{CANH} \leq +7\text{ V}$	19	30	52	$\text{k}\Omega$
Input resistance matching	$R_{\text{Imatch}}$	$\text{CANH}=\text{CANL}$ ; <sup>(1)</sup> $0\text{ V} \leq \text{CANL} \leq +5\text{ V}$ $0\text{ V} \leq \text{CANH} \leq +5\text{ V}$	-2		2	%
The range of common-mode voltage	$V_{\text{COM}}$		-12		12	V

(1) Not tested in production; guaranteed by design.

( $\text{VCC}=5\text{ V} \pm 5\%$  and  $\text{Temp}=\text{T}_{\text{MIN}}\sim\text{T}_{\text{MAX}}$  unless specified otherwise; typical in  $\text{VCC}=+5\text{ V}$ ,  $\text{VIO}=+5\text{ V}$  and  $\text{Temp}=25^\circ\text{C}$ ).

## RECEIVER SWITCHING CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Receive timing; pins CANH, CANL, RXD; see Fig.3 and Fig.5 and Fig.6; $R_L=60\Omega$ ; $C_L=100\text{ pF}$ ; $C_{\text{RXD}}=15\text{ pF}$ .						
Propagation delay time, bus recessive to RXD	$t_{\text{d}(\text{busrec\_RXD})}$	$\text{STB}=0\text{ V}$ , Fig 3, Fig 6		65		ns
Propagation delay time, bus dominant to RXD	$t_{\text{d}(\text{busdom\_RXD})}$	$\text{STB}=0\text{ V}$ , Fig 3, Fig 6		60		ns
RXD signal rise time	$t_r$	$\text{STB}=0\text{ V}$ , Fig 3, Fig 6		10		ns
RXD signal fall time	$t_f$	$\text{STB}=0\text{ V}$ , Fig 3, Fig 6		10		ns

( $\text{VCC}=5\text{ V} \pm 5\%$  and  $\text{Temp}=\text{T}_{\text{MIN}}\sim\text{T}_{\text{MAX}}$  unless specified otherwise; typical in  $\text{VCC}=+5\text{ V}$ ,  $\text{VIO}=+5\text{ V}$  and  $\text{Temp}=25^\circ\text{C}$ ).

**DEVICE SWITCHING CHARACTERISTICS**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Transceiver timing; pins CANH, CANL, TXD and RXD; see Fig 3 and Fig 5 and Fig 6; $R_L=60\Omega$ ; $C_L=100pF$ ; $C_{RXD}=15pF$ .						
Loop delay1, driver input to receiver output, Recessive to Dominant	$t_{loop1}$	STB=0V, Fig 3, Fig 6		80	220	ns
Loop delay 2, driver input to receiver output, Dominant to Recessive	$t_{loop2}$	STB=0V, Fig 3, Fig 6		90	220	ns
Bit time of BUS output pin	$t_{bit(BUS)}$	$t_{bit(TXD)}=500ns^{(1)}$ , Fig 5, Fig 6	435		530	ns
		$t_{bit(TXD)}=200ns^{(2)}$ , Fig 5, Fig 6	155		210	ns
Bit time of RXD output pin	$t_{bit(RXD)}$	$t_{bit(TXD)}=500ns^{(1)}$ , Fig 5, Fig 6	400		550	ns
		$t_{bit(TXD)}=200ns^{(2)}$ , Fig 5, Fig 6	120		220	ns
Receiver timing symmetry	$\Delta t_{rec}$	$t_{bit(TXD)}=500ns^{(1)}$ , Fig.5, Fig.6	-65		+40	ns
		$t_{bit(TXD)}=200ns^{(2)}$ , Fig 5, Fig 6	-45		+15	ns

(1) Transmitted recessive bit width at 2Mbit/s.

(2) Transmitted recessive bit width at 5Mbit/s.

( $V_{CC}=5V\pm 5\%$  and  $Temp=T_{MIN}\sim T_{MAX}$  unless specified otherwise; typical in  $V_{CC}=+5V$ ,  $V_{IO}=+5V$  and  $Temp=25^\circ C$ ).

**OVER TEMPERATURE PROTECTION**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Shutdown junction temperature	$T_{j(sd)}$			190		$^\circ C$

( $V_{CC}=5V\pm 5\%$  and  $Temp=T_{MIN}\sim T_{MAX}$  unless specified otherwise; typical in  $V_{CC}=+5V$ ,  $V_{IO}=+5V$  and  $Temp=25^\circ C$ ).



**UNDER-VOLTAGE PROTECTION**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
VCC under-voltage protection	$V_{uvd\_VCC}$		3.5	3.9	4.3	V
VIO under-voltage protection	$V_{uvd\_VIO}$		2.1	2.5	2.7	V

(VCC=5V±5% and Temp=T<sub>MIN</sub>~T<sub>MAX</sub> unless specified otherwise; typical in V<sub>CC</sub>=+5V, V<sub>IO</sub>=+5V and Temp=25°C).

**TXD PIN CHARACTERISTICS**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
HIGH-level input current	$I_{IH}(TXD)$	TXD=VIO	-5		5	μA
LOW-level input current	$I_{IL}(TXD)$	TXD=0V	-260	-150	-30	μA
When VCC=0V, current on TXD pin	$I_{O(off)}$	VCC=VIO=0V, TXD=VIO	-1		1	μA
HIGH-level input voltage	$V_{IH}$		$0.7V_{IO}^{(1)}$		$V_{IO}^{(1)}+0.3$	V
LOW-level input voltage	$V_{IL}$		-0.3		$0.3V_{IO}^{(1)}$	V
Open voltage on TXD pin	TXD <sub>O</sub>		H			logic

(1) SIT1057QT model  $V_{IO}=V_{CC}$ .

(VCC=5V±5% and Temp=T<sub>MIN</sub>~T<sub>MAX</sub> unless specified otherwise; typical in V<sub>CC</sub>=+5V V<sub>IO</sub>=5V and Temp=25°C).

**STB PIN CHARACTERISTICS**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
HIGH-level input current	$I_{IH}(STB)$	STB=VIO	-1		1	μA
LOW-level input current	$I_{IL}(STB)$	STB=0V	-15		-1	μA
When VCC=0V, current on STB pin	$I_{O(off)}$	VCC=VIO=0V, STB=VIO	-1		1	μA
HIGH-level input voltage	$V_{IH}$		$0.7V_{IO}^{(1)}$		$V_{IO}^{(1)}+0.3$	V
LOW-level input voltage	$V_{IL}$		-0.3		$0.3V_{IO}^{(1)}$	V

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Open voltage on STB pin	STB <sub>O</sub>			H		logic

(1) SIT1057QT model  $V_{IO}=V_{CC}$ .

( $V_{CC}=5V\pm 5\%$  and  $Temp=T_{MIN}\sim T_{MAX}$  unless specified otherwise; typical in  $V_{CC}=+5V$ ,  $V_{IO}=5V$  and  $Temp=25^{\circ}C$ ).

## RXD PIN CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
HIGH-level input current	$I_{OH}(RXD)$	$V_{IO}=V_{CC}$ , $RXD=V_{IO}-0.4V$	-8	-3	-1	mA
LOW-level input current	$I_{OL}(RXD)$	$RXD=0.4V$ , bus dominant	1		12	mA
When $V_{CC}=0V$ , current on STB pin	$I_{O}(off)$	$V_{CC}=V_{IO}=0V$ , $RXD=V_{IO}$	-1		1	$\mu A$

( $V_{CC}=5V\pm 5\%$  and  $Temp=T_{MIN}\sim T_{MAX}$  unless specified otherwise; typical in  $V_{CC}=+5V$ ,  $V_{IO}=5V$  and  $Temp=25^{\circ}C$ ).

## SUPPLY CURRENT

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
VCC current (silent mode)	$I_{CC}$	$S=V_{CC}$ , $TXD=V_{IO}$	0.1		1.2	mA
VCC current (Dominant)		$TXD=V_{IO}$ , $S=0V$ , load=60 $\Omega$		45	70	mA
VCC current (Recessive)		$TXD=V_{IO}$ , $S=0V$ , no load			5	10
VIO current (silent mode)	$I_{IO}$	$S=TXD=V_{IO}$		3	16	$\mu A$
VIO current (Dominant)		$TXD=0V$ , $S=0V$		110	320	$\mu A$
VIO current (Recessive)		$TXD=V_{IO}$ , $S=0V$			7	30

( $V_{CC}=5V\pm 5\%$  and  $Temp=T_{MIN}\sim T_{MAX}$  unless specified otherwise; typical in  $V_{CC}=+5V$ ,  $V_{IO}=5V$  and  $Temp=25^{\circ}C$ ).

**ESD PERFORMANCE**

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
CAN bus pin contact discharge model (IEC)	$V_{ESD\_IEC}$	IEC 61000-4-2: Contact discharge	-4		+4	kV
CAN bus pin human body discharge model (HBM)	$V_{ESD\_HBM}$		-8		+8	kV

**FUNCTION TABLE**
**Table1. CAN TRANSCEIVER TRUTH TABLE**

TXD <sup>(1)</sup>	STB <sup>(1)</sup>	CANH <sup>(1)</sup>	CANL <sup>(1)</sup>	BUS STATE	RXD <sup>(1)</sup>
L	L	H	L	Dominate	L
H or Open	L	0.5VCC	0.5VCC	Recessive	H
X	H or Open	0.5VCC	0.5VCC	Recessive	H
X	H or Open	H	L	Dominate	L

(1) H=high level; L=low level; X=irrelevant.

**Table 2. RECEIVER FUNCTION TABLE**

$V_{ID}=CANH-CANL$	RXD <sup>(1)</sup>	BUS STATE <sup>(1)</sup>
$V_{ID} \geq 0.9V$	L	Dominate
$0.5 < V_{ID} < 0.9V$	?	?
$V_{ID} \leq 0.5V$	H	Recessive
Open	H	Recessive

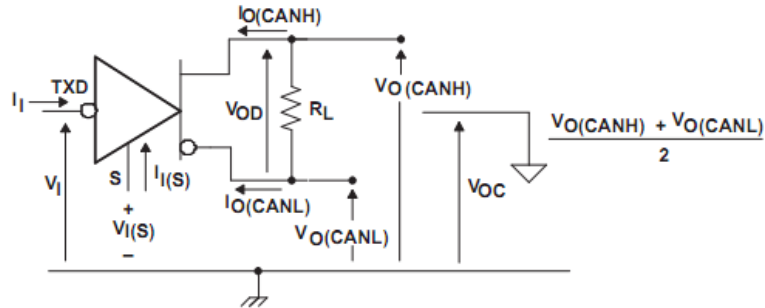
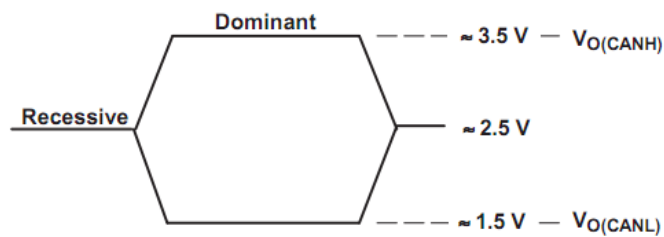
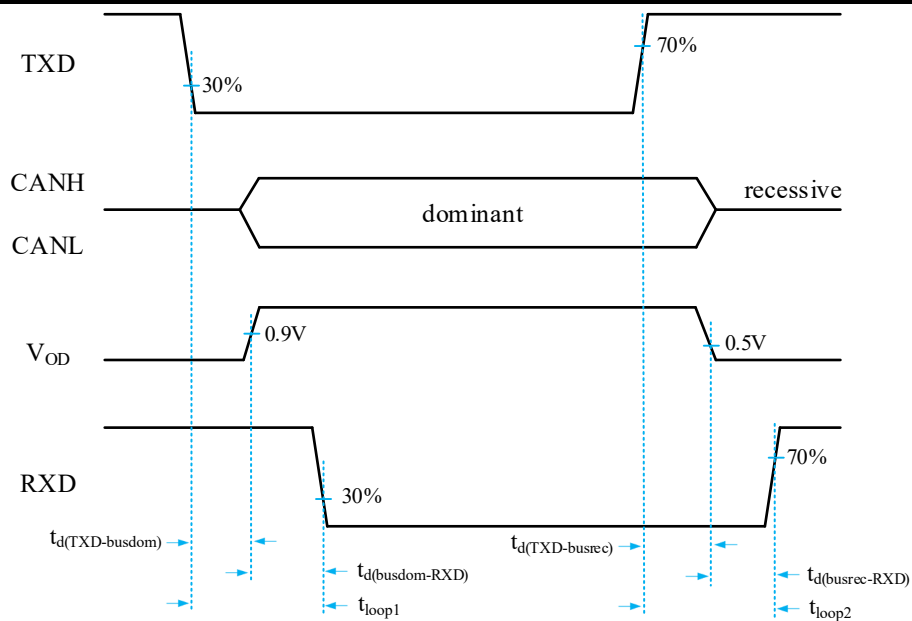
(1) H=high-level; L=low-level; ?=uncertain.

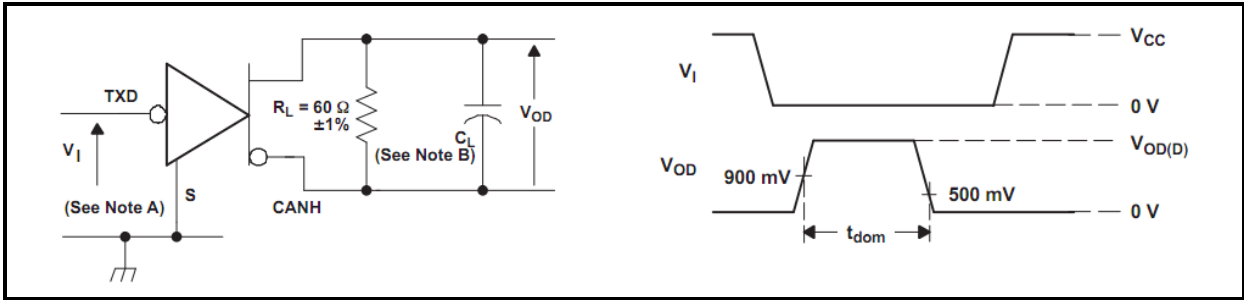
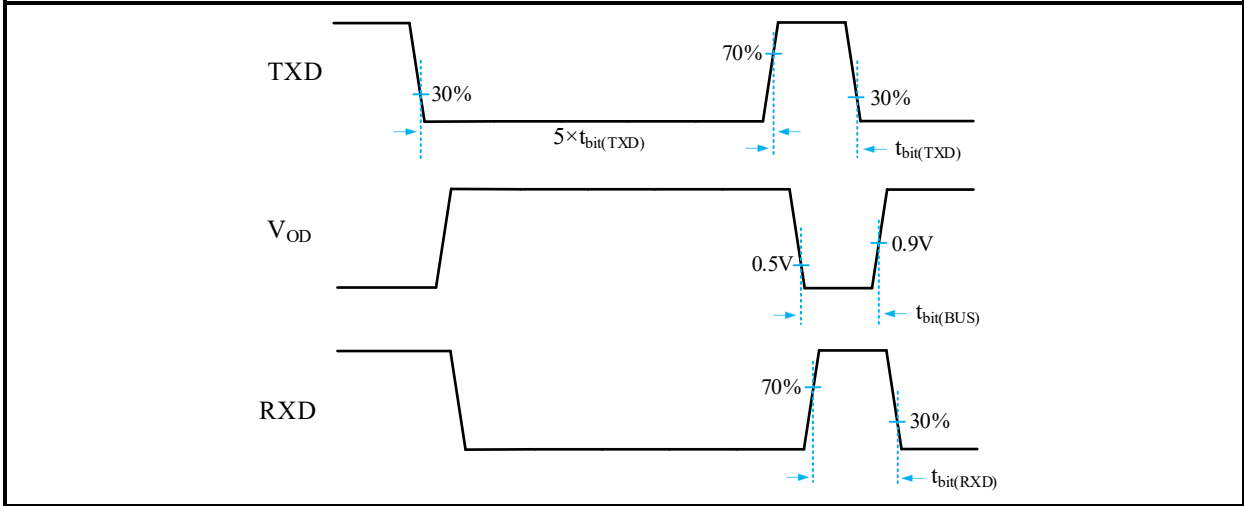
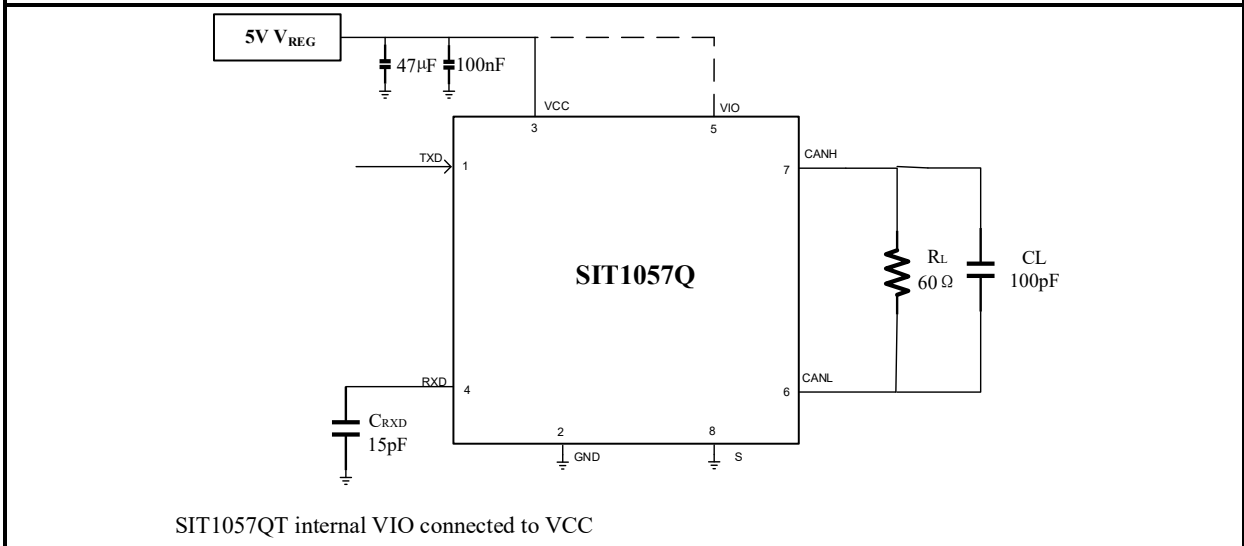
**Table 3. Under-voltage protection status table**

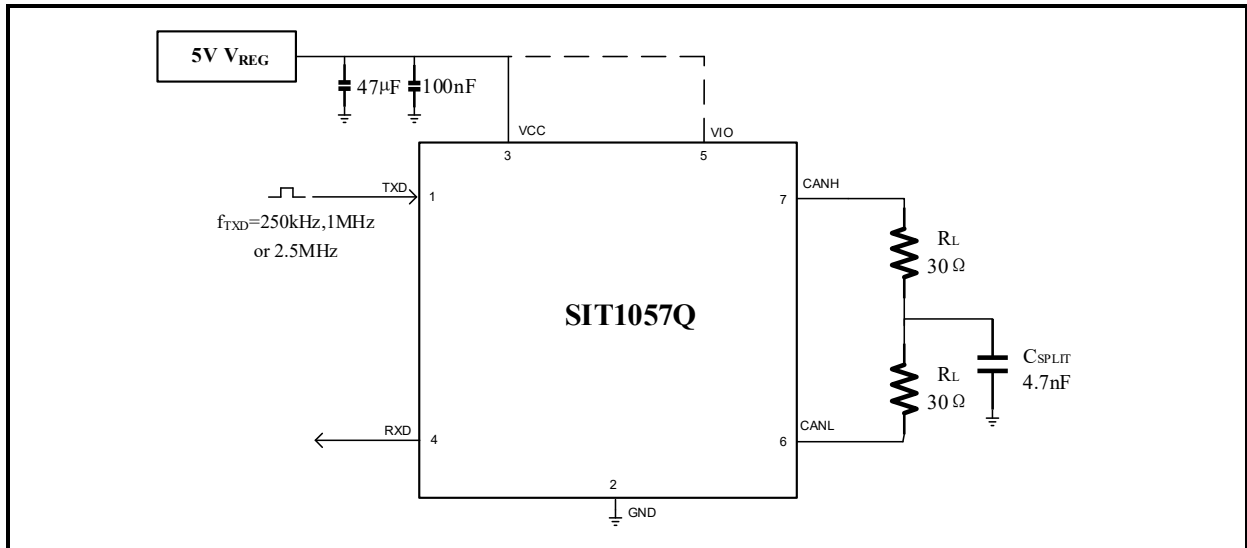
VCC	VIO <sup>(1)</sup>	BUS STATE	BUS OUT <sup>(2)</sup>	RXD <sup>(2)</sup>
$VCC > V_{uvd\_VCC}$	$VIO > V_{uvd\_VIO}$	normal	According to STB and TXD	Follow the bus
$VCC < V_{uvd\_VCC}$	$VIO > V_{uvd\_VIO}$	Protected state	Z	H
$VCC > V_{uvd\_VCC}$	$VIO < V_{uvd\_VIO}$	Protected state	Z	H
$VCC < V_{uvd\_VCC}$	$VIO < V_{uvd\_VIO}$	Protected state	Z	H

(1) For SIT1057QT/3 and SIT1057QTK/3 version;

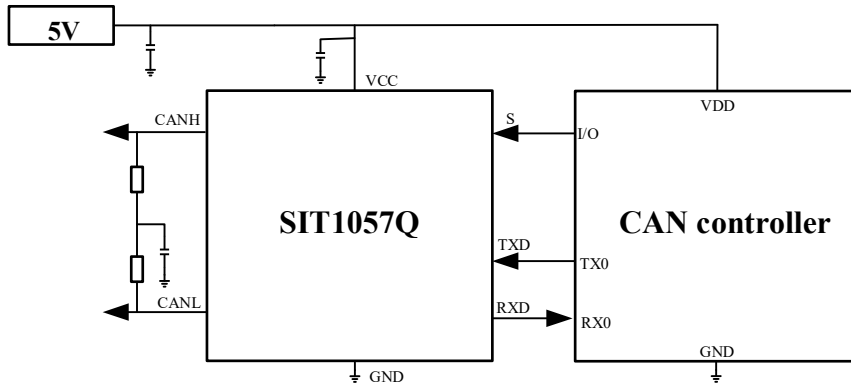
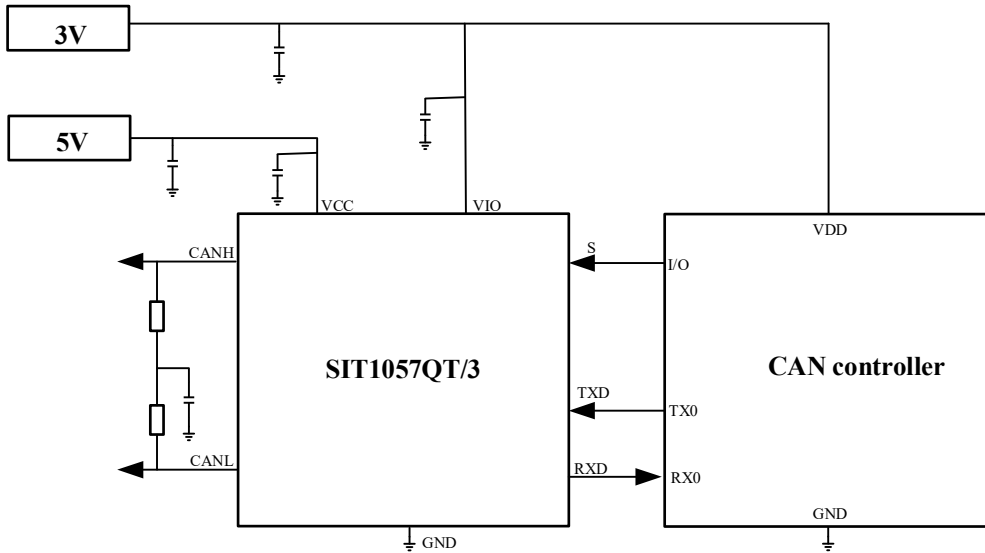
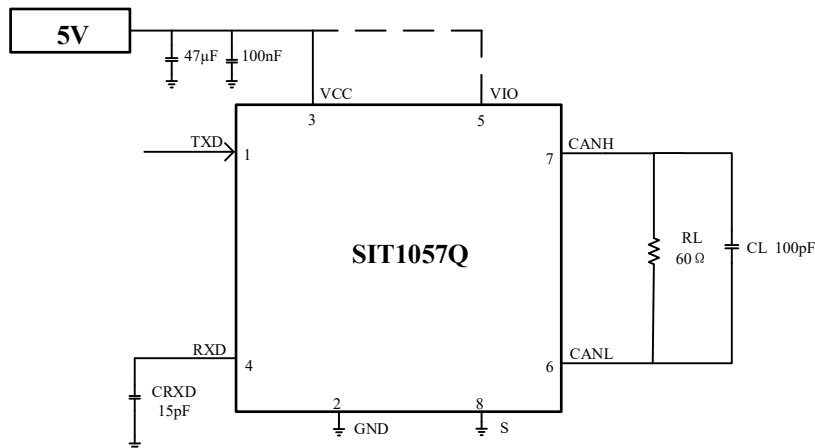
(2) H=high level; Z=high impedance state.

**TEST CIRCUIT**

**Fig.1 Driver Voltage, Current, and Test Definition**

**Fig.2 Bus Logic State Voltage Definition**

**Fig.3 Transceiver timing diagram**


**Fig.4 Dominant overtime test circuit and waveform**

**Fig.5  $t_{bit}$  test circuit and waveform**

**Fig.6 CAN transceiver timing test circuit**



**Fig.7 Test circuit for measuring transmitter driver symmetry**

**TYPICAL APPLICATION TEST**

**Typical application diagram of SIT1057Q**

**Typical application diagram of SIT1057QT/3**


(1) VIO is limited to SIT1057QT/3, in SIT1057QT VIO=VCC

**SIT1057Q typical high-speed mode test chart**

## ADDITIONAL DESCRIPTION

### 1 Sketch

SIT1057Q is an interface chip applied between the CAN protocol controller and the physical bus. It can be used in trucks, buses, cars, industrial control and other fields. It supports 5Mbps (CAN FD) flexible data rate, and has a connection between the bus and the CAN protocol controller. The ability to perform differential signal transmission between them is fully compatible with the “ISO 11898-2: 2016” standard.

### 2 Over temperature protection

SIT1057Q has an over-temperature protection function. After the over-temperature protection is triggered, the drive tube will be turned off, because the drive tube is the main energy-consuming component. Turning off the drive tube can reduce power consumption and thus reduce the chip temperature. At the same time, other parts of the chip are still working normally.

### 3 Under-voltage protection

The SIT1057Q power supply pin has an under-voltage detection function, which can put the device in a protected mode. This protects the bus when VCC is lower than  $V_{\text{uvd\_VCC}}$  or VIO is lower than  $V_{\text{uvd\_VIO}}$  (if applicable).

### 4 Operating modes

The control pin STB allows two working modes to be selected: high-speed mode and silent mode.

The high-speed mode is a normal operating mode and is selected by grounding the pin STB. Both the CAN driver and the receiver can operate normally and CAN communication is carried out in both directions.

In silent mode, the transmitter is disabled and the receiver operates normally. Silent mode can be selected by connecting pin S to VCC and can be used to prevent network signal blocking due to a runaway CAN controller.

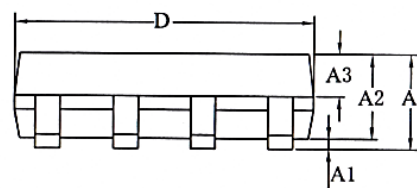
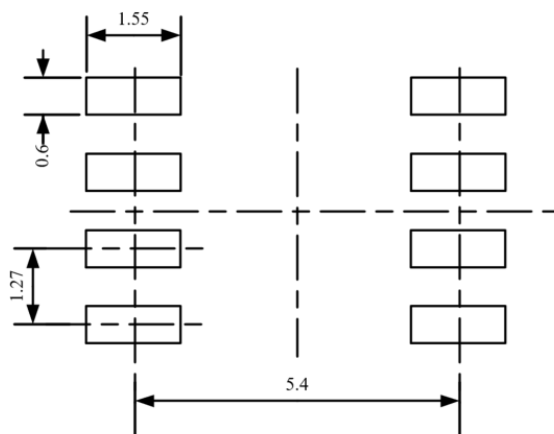
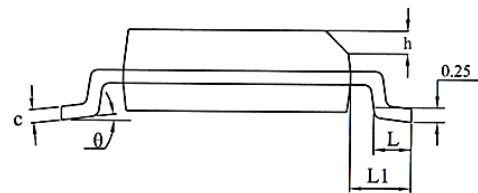
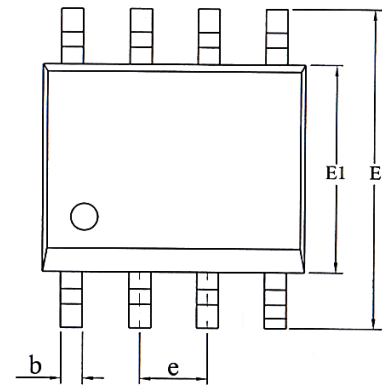
### 5 Dominant timeout function

In high-speed mode, if the low-level duration on pin TXD exceeds the internal timer value ( $t_{\text{dom\_TXD}}$ ), the transmitter will be disabled and drive the bus into a recessive state. It can prevent the pin TXD from being forced to a permanent low level due to a hardware or software application failure, causing the bus line to be driven to a permanent dominant state (blocking all network communications). A rising edge signal on pin TXD can be reset.



**SOP8 DIMENSIONS**
**PACKAGE SIZE**

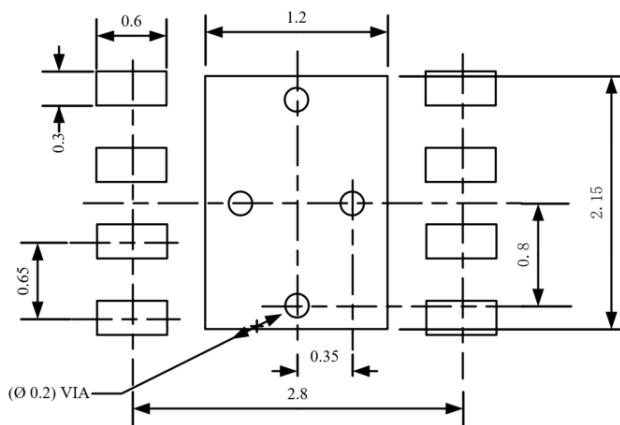
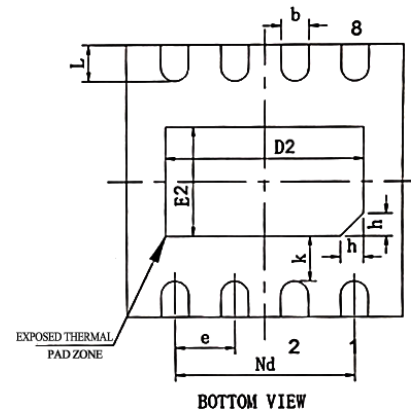
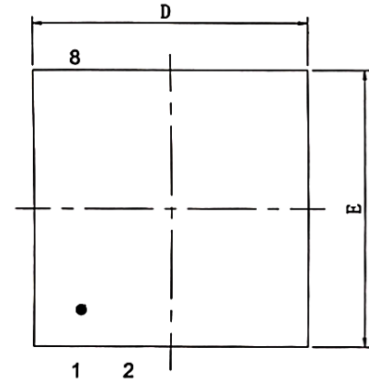
SYMBOL	MIN./mm	TYP./mm	MAX./mm
A	1.40	-	1.80
A1	0.10	-	0.25
A2	1.30	1.40	1.50
A3	0.60	0.65	0.70
b	0.38	-	0.51
D	4.80	4.90	5.00
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
h	0.25	-	0.50
L	0.40	0.60	0.80
L1	1.05REF		
c	0.20	-	0.25
$\theta$	0°	-	8°



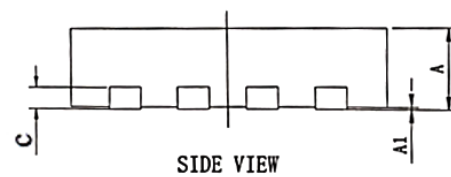
LAND PATTERN EXAMPLE (Unit: mm)

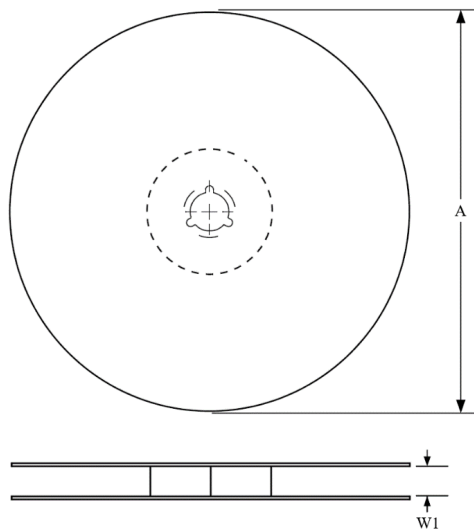
**DFN3\*3-8 DIMENSIONS**
**PACKAGE SIZE**

SYMBOL	MIN/mm	TYP /mm	MAX/mm
A	0.70	0.75	0.80
A1	0	0.02	0.05
c	0.203 REF		
D	2.90	3.00	3.10
E	2.90	3.00	3.10
D2	2.05	2.15	2.25
Nd	1.95BSC		
E2	1.10	1.20	1.30
b	0.25	0.30	0.35
e	0.65 TYP		
k	0.50REF		
L	0.35	0.4	0.45
h	0.20	0.25	0.30

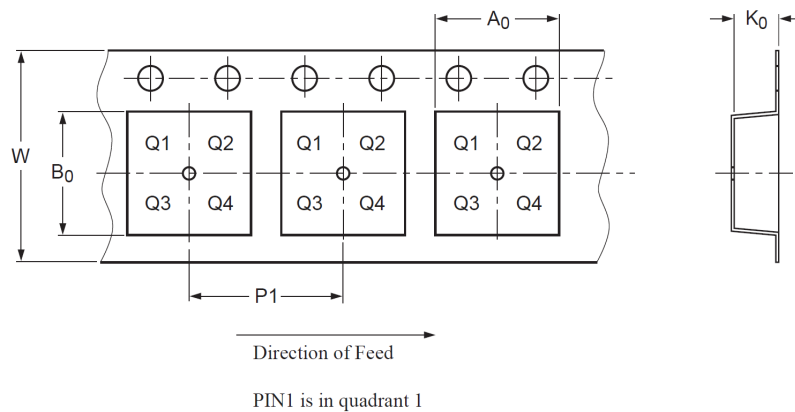


LAND PATTERN EXAMPLE (Unit: mm)



**TAPE AND REEL INFORMATION**


A0	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

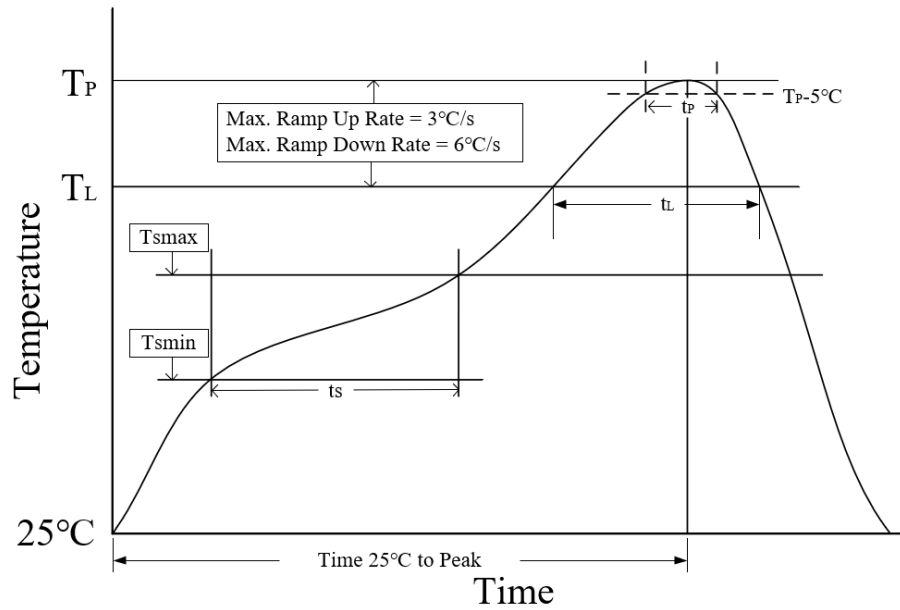


Package Type	Reel Diameter A (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)
SOP8	330±1	12.4	6.60±0.1	5.30±0.10	1.90±0.1	8.00±0.1	12.00±0.1
DFN3*3-8	329±1	12.4	3.30±0.1	3.30±0.1	1.10±0.1	8.00±0.1	12.00±0.3

**ORDERING INFORMATION**

TYPE NUMBER	PACKAGE	PACKING
SIT1057QT	SOP8	Tape and reel
SIT1057QT/3	SOP8	Tape and reel
SIT1057QTK/3	DFN3*3-8, Small shape, no leads.	Tape and reel

SOP8 is packed with 2500 pieces/disc in braided packaging. Leadless DFN3\*3-8 is packed with 6000 pieces/disc in braided packaging.

**REFLOW SOLDERING**


Parameter	Lead-free soldering conditions
Ave ramp up rate ( $T_L$ to $T_P$ )	3 °C/second max
Preheat time $t_s$ ( $T_{smin}=150\text{ °C}$ to $T_{smax}=200\text{ °C}$ )	60-120 seconds
Melting time $t_L$ ( $T_L=217\text{ °C}$ )	60-150 seconds
Peak temp $T_P$	260-265 °C
5°C below peak temperature $t_p$	30 seconds
Ave cooling rate ( $T_P$ to $T_L$ )	6 °C/second max
Normal temperature 25°C to peak temperature $T_P$ time	8 minutes max

**Important statement**

SIT reserves the right to change the above-mentioned information without prior notice.

**REVISION**

Version number	Data sheet status	Revision date
V1.0	Initial version	June 2022
V1.1	Added "AEC-Q100 qualified".	November 2022