Schottky Barrier Diode Quick Reference

■Schottky Barrier Diodes Product lineup

Application	VRM (V)	Package												
		1006 Size	1608 Size			2012 Size				2616 Size	2916 Size			4256 Size
		VMD2	EMD2 (SOD-523)	EMD3 (SOT-416)	EMD4	UMD2 (SOD-323)	UMD3 (SOT-323)	UMD4 (SOT-343)	UMD6 (SOT-363)	PMDU (SOD-123)	SMD3 (SOT-346)	SMD5 (SC-74A)	SMD6 (SOT-457)	PMDS (SOD-106)
Small signal (Io<0.5A)	30	NEW RB520G-30 NEW RB521G-30	RB520S-30 RB521S-30	NEW RB548W	NEW RB480Y NEW RB481Y			RB481K	NEW RB530XN NEW RB531XN					
	40～50		RB751S-40	RB715W		RB501V-40 RB500V-40 RB751V-40	RB451F RB450F RB706F-40 RB715F RB717F	RB480K	RB731XN		RB420D RB421D RB425D RB495D RB705D RB706D-40	RB471E	RB731U	
Rectification (Io≧0.5A)	25～30					RB551V-30	RB461F			NEW RB160M-30 NEW RB161M-20	RB491D			RB053L-30 RB063L-30 RB081L-20 RB083L-20
	40～60										RB400D RB411D			RB160L-60 RB160L-40 RB161L-40 RB060L-40 RB050L-40 RB051L-40

■Surface mount small signal type (Io<0.5A)

Part no.		Absolute maxmum ratings (Ta=25℃) ※1				Electrical characteristics (Ta=25℃) ※1				Package	Equivalent circuit diagram
Part no.	Taping code	VRM (V)	VR (V)	Io (mA)	IFSM(A) 60Hz.1～	VF(V) Max.	IF (mA)	IR(μA) Max.	VR (V)		
NEW RB521G-30	T2R	—	30	100	0.5	0.35	10	10	10	VMD2	
NEW RB520G-30	T2R	—	30	100	0.5	0.45	10	0.5	10	VMD2	
RB521S-30	TE61	—	30	200	1	0.50	200	30	10	EMD2	
RB520S-30	TE61	—	30	200	1	0.60	200	1	10	EMD2	
RB751S-40	TE61	40	30	30	0.2	0.37	1	0.5	30	EMD2	
RB501V-40	TE-17	45	40	100	1	0.55	100	30	10	UMD2	
RB500V-40	TE-17	45	40	100	1	0.45	10	1	10	UMD2	
RB751V-40	TE-17	40	30	30	0.2	0.37	1	0.5	30	UMD2	
RB715W	TL	40	40	30	0.2	0.37	1	1	10	EMD3	
RB715F	T106	40	40	30	0.2	0.37	1	1	10	UMD3	
RB425D	T146	40	40	100	1	0.55	100	30	10	SMD3	
RB705D	T146	40	40	30	0.2	0.37	1	1	10	SMD3	
RB495D	T146	40	25	*400	2	0.50	200	70	25	SMD3	
RB717F	T106	40	40	30	0.2	0.37	1	1	10	UMD3	
NEW RB548W	TL	—	30	100	0.5	0.45	10	0.5	10	EMD3	
RB706F-40	T106	45	40	30	0.2	0.37	1	1	10	UMD3	
RB706D-40	T146	45	40	30	0.2	0.37	1	1	10	SMD3	
RB451F	T106	40	40	100	1	0.55	100	30	10	UMD3	
RB450F	T106	45	40	100	1	0.45	10	1	10	UMD3	
RB421D	T146	40	40	100	1	0.55	100	30	10	SMD3	
RB420D	T146	40	40	100	1	0.45	10	1	10	SMD3	
NEW RB480Y	T2R	—	30	100	1	0.53	100	1	10	EMD4	
NEW RB481Y	T2R	—	30	100	1	0.43	100	30	10	EMD4	
RB480K	TL	45	40	100	1	0.60	100	1	10	UMD4	
RB481K	TL	30	30	200	1	0.50	200	30	10	UMD4	
RB471E	T148	40	40	100	1	0.55	100	30	10	SMD5	
NEW RB531XN	TR	—	30	100	1	0.43	100	20	10	UMD6	
NEW RB530XN	TR	—	30	100	1	0.53	100	1	10	UMD6	
RB731XN	TR	40	40	30	0.2	0.37	1	1	10	UMD6	
RB731U	T108	40	40	30	0.2	0.37	1	1	10	SMD6	

Note : ※1Value/element, *Value/2 circuits.

■Surface mount rectifier type (Io≧0.5A)

Part no.		Absolute maxmum ratings (Ta=25℃) ※1				Electrical characteristics (Ta=25℃) ※1				Package	Equivalent circuit diagram
Part no.	Taping code	VRM (V)	VR (V)	Io (A)	IFSM(A) 60Hz.1～	VF(V) Max.	IF (mA)	IR(μA) Max.	VR (V)		
RB551V-30	TE-17	30	20	0.5	2	0.36	0.1	0.1	20	UMD2	
NEW RB160M-30	TR	30	30	1.0	30	0.48	1.0	0.05	30	PMDU	
NEW RB161M-20	TR	25	20	1.0	30	0.35	1.0	0.7	20	PMDU	
RB160L-60	TE25	60	60	1.0	30	0.58	1.0	1.0	60	PMDS	
RB160L-40	TE25	40	40	1.0	70	0.55	1.0	0.1	40	PMDS	
RB161L-40	TE25	40	20	1.0	70	0.40	1.0	1.0	20	PMDS	
RB060L-40	TE25	40	40	2.0	70	0.50	2.0	1.0	40	PMDS	
RB063L-30	TE25	30	30	2.0	70	0.395	2.0	0.2	30	PMDS	
RB050L-40	TE25	40	40	3.0	70	0.55	3.0	1.0	40	PMDS	
RB051L-40	TE25	40	20	3.0	70	0.45	3.0	1.0	20	PMDS	
RB053L-30	TE25	30	30	3.0	70	0.42	3.0	0.2	30	PMDS	
RB081L-20	TE25	25	20	5.0	70	0.45	5.0	0.7	20	PMDS	
RB083L-20	TE25	25	20	5.0	70	0.39	3.0	0.5	20	PMDS	
RB461F	T106	25	20	0.7	3	0.49	0.7	0.20	20	UMD3	
RB411D	T146	40	20	0.5	3	0.50	0.5	0.03	10	SMD3	
RB400D	T146	40	40	0.5	3	0.55	0.5	0.05	30	SMD3	
RB491D	T146	25	20	1.0	3	0.45	1.0	0.20	20	SMD3	

Note : ※1Value/element.

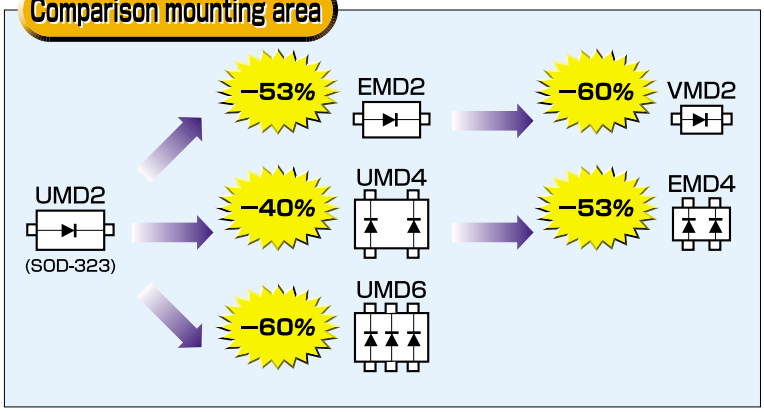
Super small schottky diode (100mA~200mA)

Applications

●Cellular Phones ●Digital camera
●Digital video camera
●PC, PDA

Ultra small body size yet keep 100mA-200mA capability. single die and multiple dies(up to 3 dies) in one packge availlable in different body size.

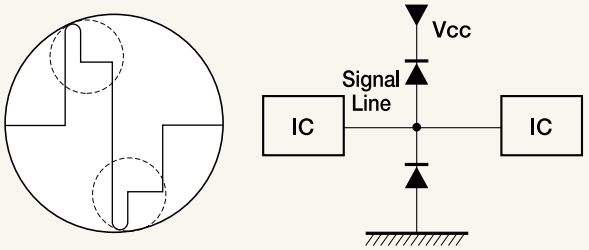
Comparison mounting area



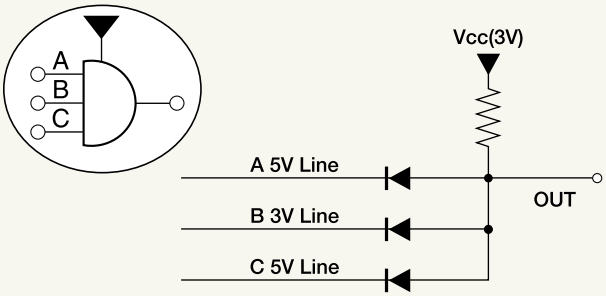
Package	Low V_F & low I_R	Super Low V_F	Circuit
 1006 size VMD2	RB520G-30	RB521G-30	
	V_F=0.45V I_R=0.5μA	V_F=0.35V I_R=10μA	
 1208 size EMD2 (SOD-523)	RB520S-30	RB521S-30	
	V_F=0.6V I_R=1μA	V_F=0.5V I_R=30μA	
 1608 size EMD3 (SOT-416)	RB548W	———	
	V_F=0.45V I_R=0.5μA		
 1612 size EMD4	RB480Y	RB481Y	
	V_F=0.53V I_R=1μA	V_F=0.43V I_R=30μA	
 2125 size UMD4 (SOT-343)	RB480K	RB481K	
	V_F=0.6V I_R=1μA	V_F=0.5V I_R=30μA	
 2125 size UMD6 (SOT-363)	RB530XN	RB531XN	
	V_F=0.53V I_R=1μA	V_F=0.43V I_R=20μA	

Example circuit: absorbing signal line over-shoot

As the frequency of the clock increases, the wave changes as shown below. Our product adsorbs the over-shoot.



Example circuit: for signal line level shift



(Used when 5V signal line and 3V signal line co-exist.)

Schottky barrier diode (Silicon Epitaxial Planer)

RB520G-30

Low IR

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type
(VMD2)
·High reliability

Mass per piece
0.9mg/pcs

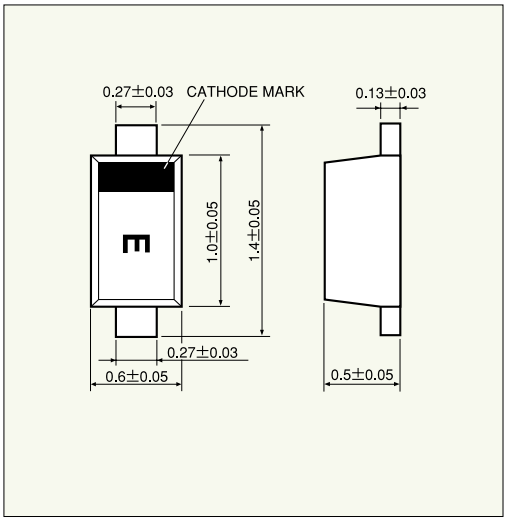
ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(DC)	V_R	30V
Average rectified forward current	Io	100mA
Forward current surge peak (60Hz·1㏈)	I_{FSM}	500mA
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40~125℃

ELECTRICAL CHARACTERISTIC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_F	I_F=10mA	0.45V Max.
Reverse current	I_R	V_R=10V	0.5μA Max.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

RB521G-30

Low VF

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type
(VMD2)
·High reliability

Mass per piece
0.9mg/pcs

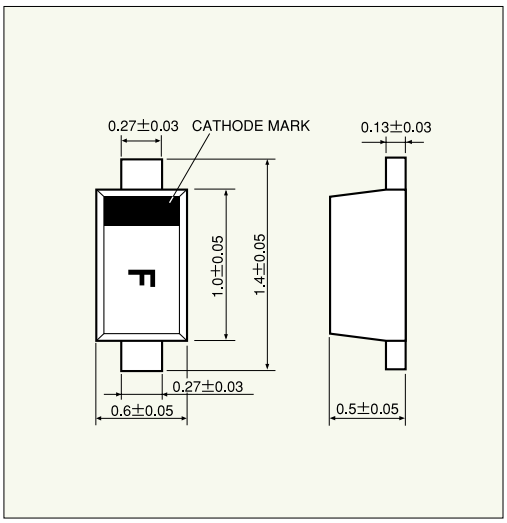
ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(DC)	V_R	30V
Average rectified forward current	Io	100mA
Forward current surge peak (60Hz·1㏈)	I_{FSM}	500mA
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40~125℃

ELECTRICAL CHARACTERISTIC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_F	I_F=10mA	0.35V Max.
Reverse current	I_R	V_R=10V	10μA Max.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

RB520S-30

Low IR

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type
(EMD2)
·High reliability

Mass per piece
1.5mg/pcs

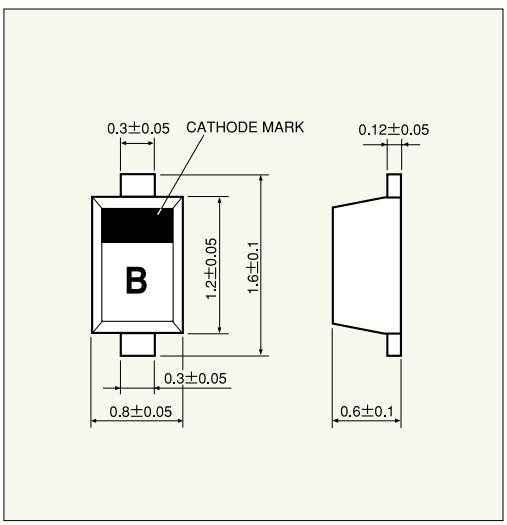
ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(DC)	V_R	30V
Average rectified forward current	Io	200mA
Forward current surge peak (60Hz·1㏈)	I_{FSM}	1A
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40~125℃

ELECTRICAL CHARACTERISTIC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_F	I_F=200mA	0.60V Max.
Reverse current	I_R	V_R=10V	1.0μA Max.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

Low V_F

RB521S-30

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type (EMD2)
·High reliability

Mass per piece
1.5mg/pcs

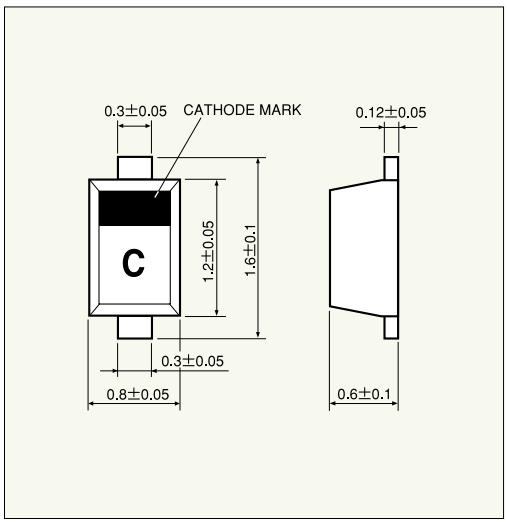
ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(DC)	V_R	30V
Average rectified forward current	I_O	200mA
Forward current surge peak (60Hz·1㋠)	I_{FSM}	1A
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40～125℃

ELECTRICAL CHARACTERISTIC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_F	I_F=200mA	0.50V Max.
Reverse current	I_R	V_R=10V	30μA Max.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

Low I_R

RB548W

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type (EMD3)
·High reliability

Mass per piece
2mg/pcs

ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	V_{RM}	35V
Reverse voltage(DC)	V_R	30V
Average rectified forward current	I_O※	100mA
Forward current surge peak (60Hz·1㋠)	I_{FSM}※	0.5A
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40～125℃

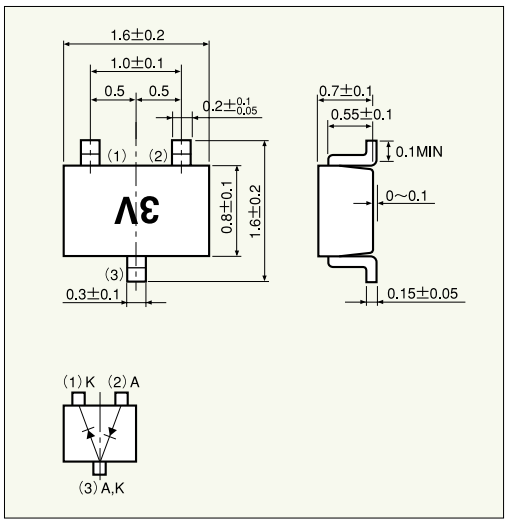
※Value for each device.

ELECTRICAL CHARACTERISTIC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_{F1}	I_F=1mA	0.380V Max.
	V_{F2}	I_F=10mA	0.450V Max.
Reverse current	I_R	V_R=10V	0.5μA Max.

※Please pay attention to static electricity when handling.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

RB480Y

Low IR

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type (EMD4)
·High reliability

Mass per piece
0.9 mg/pcs

ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(DC)	V_R	30V
Average rectified forward current	I_O※	100mA
Forward current surge peak (60Hz·1 ∿)	I_{FSM}※	1A
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40~125℃

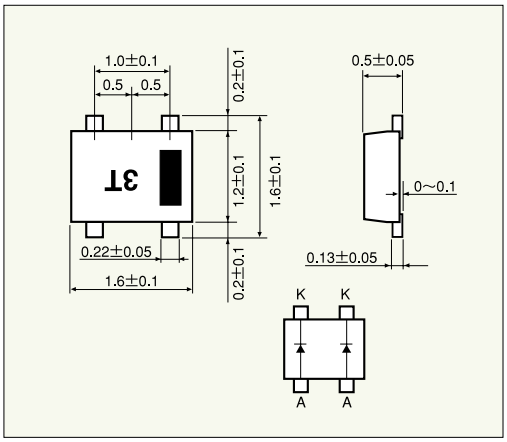
*Value for each device.

ELECTRICAL CHARACTERISTC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_{F1}	I_F=1mA	0.38V Max.
	V_{F2}	I_F=10mA	0.43V Max.
	V_{F3}	I_F=100mA	0.53V Max.
Reverse current	I_R	V_R=10V	1μA Max.

Please pay attention to static electricity when handring.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

RB481Y

Low VF

APPLICATION
Rectifying small power

FEATURE
·Ultra Small mold type (EMD4)
·High reliability

Mass per piece
2.6 mg/pcs

ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(DC)	V_R	30V
Average rectified forward current	I_O※	100mA
Forward current surge peak (60Hz·1 ∿)	I_{FSM}※	1A
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40~125℃

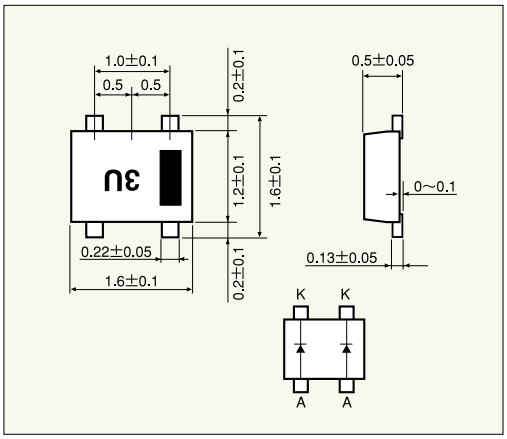
*Value for each device.

ELECTRICAL CHARACTERISTC (Ta=25℃)

Characteristic	Symbol	Test condition	Standard
Forward current	V_{F1}	I_F=1mA	0.28V Max.
	V_{F2}	I_F=10mA	0.33V Max.
	V_{F3}	I_F=100mA	0.43V Max.
Reverse current	I_R	V_R=10V	30μA Max.

Please pay attention to static electricity when handring.

DIMENSION (UNIT:mm)



Schottky barrier diode (Silicon Epitaxial Planer)

RB480K

Low IR

APPLICATION
Rectifying small power

FEATURE
·Small mold type (UMD4)
·High reliability

Mass per piece
6.5 mg/pcs

ABSOLUTE MAXIMUM RATING (Ta=25℃)

Characteristic	Symbol	Limits
Reverse voltage(repetitive peak)	V_{RM}	45V
Reverse voltage(DC)	V_R	40V
Average rectified forward current	I_O※	100mA
Forward current surge peak (60Hz·1 ∿)	I_{FSM}※	1A
Junction temperature	Tj	125℃
Storage temperature	Tstg	−40~125℃

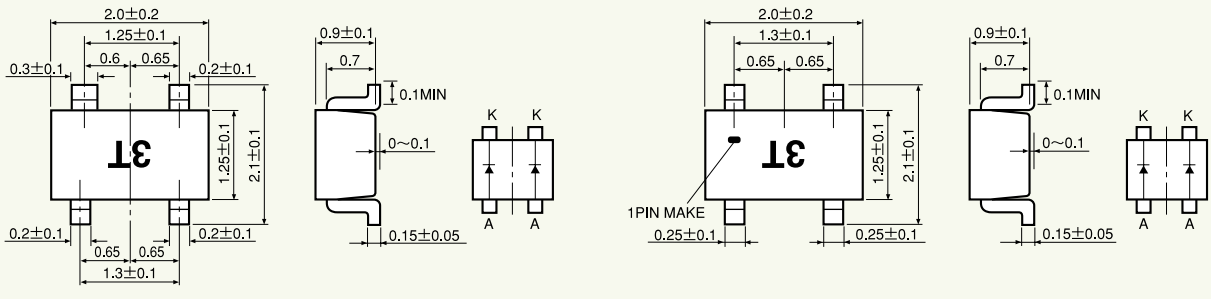
*Value for each device.

ELECTRICAL CHARACTERISTC (Ta=25°C)

Characteristic	Symbol	Test condition	Standard
Forward voltage	V_{F1}	I_F=10mA	0.45V Max.
	V_{F2}	I_F=100mA	0.60V Max.
Reverse current	I_{R1}	V_R=10V	1μA Max.
	I_{R2}	V_R=40V	5μA Max.
Capacitance between Termina	Ct1	V_R=10V f=1MHz	6.0pF Typ.
	Ct2	V_R=0V	25pF Max.

Please pay attention to static electricity when handring.

DIMENSION (UNIT:mm)



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