

Small Signal Product

Bi-directional ESD Protection Diodes

FEATURES

- Meet IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- Protects one Bi-directional I/O lines
- Low clamping voltage
- Working Voltage : 5, 12 and 24V
- High component density


0603-B


MECHANICAL DATA

Case : 0603-B standard package molded plastic

Terminals : Gold plated, solderable per MIL-STD-750, method 2026

Weight : 0.003g (approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)							
PARAMETER		CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Diode breakdown voltage	TESDUB5V0	IR=1mA	V _{BO}	5.1	7	-	V
	TESDUB12V			13	17	-	
	TESDUB24V			25	28	-	
Leakage current	TESDUB5V0	VR=5V	I _L	-	0.1	2	μA
	TESDUB12V	VR=12V					
	TESDUB24V	VR=24V					
Junction capacitance	TESDUB5V0	VR=0V, f=1MHz	C _T	-	15	20	pF
	TESDUB12V				12	-	
	TESDUB24V				10	-	
ESD capability		IEC 61000-4-2(air) IEC 61000-4-2(contact)	ESD			15	KV
						8	
Clamping voltage	TESDUB5V0	I _{PP} =5A, T _P =8/20us	V _C	-	-	15	V
	TESDUB12V	I _{PP} =1A, T _P =8/20us				25	
	TESDUB24V	I _{PP} =1A, T _P =8/20us				47	
Peak pulse power	TESDUB5V0	T _P =8/20us	P _{PP}	-	-	75	W
	TESDUB12V					25	
	TESDUB24V					47	
Junction temperature range			T _J	-55 to + 125			°C
Storage temperature range			T _{STG}	-55 to + 150			°C

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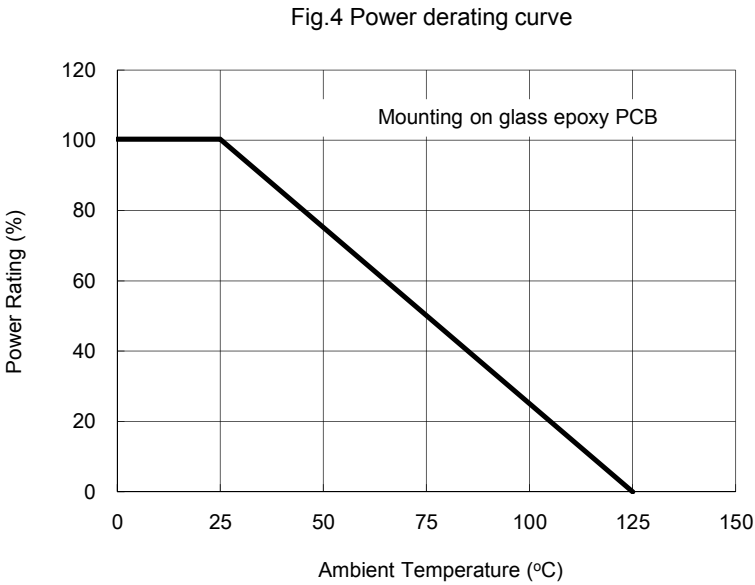
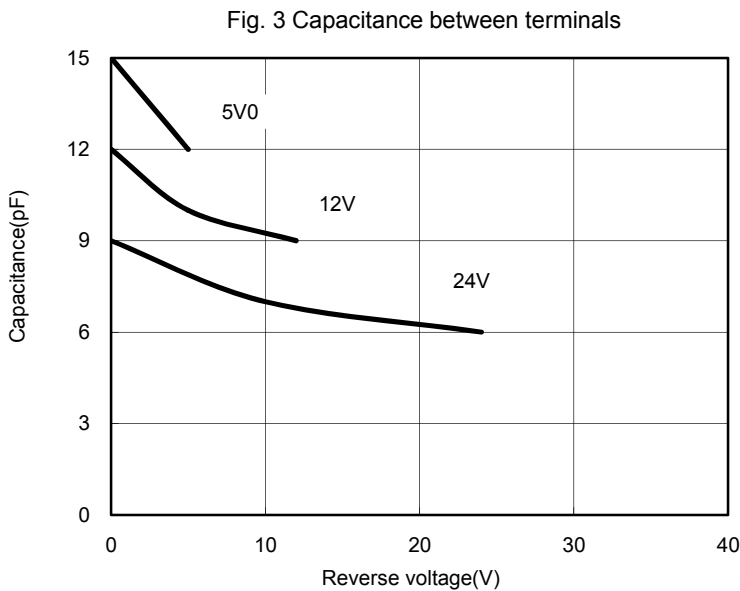
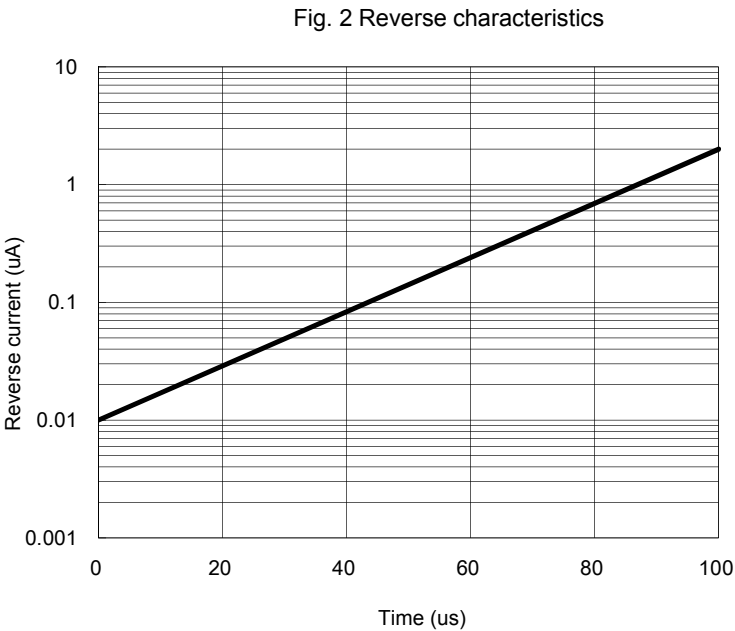
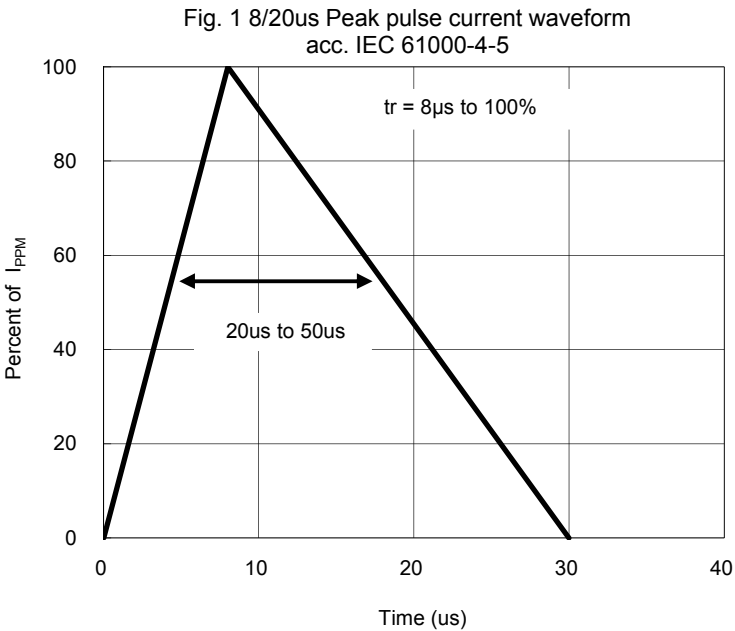
ORDERING INFORMATION					
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING	MANUFACTURE CODE
TESDUBxxx (Note 1)	R4	Suffix "G"	0603-B	4000 / Reel	(Note 2)

Note 1: "xxx" defines voltage from 5V (TESDUB5V0) to 24V (TESDUB24V)
 Note 2: Manufacture special control, if empty means no special control requirement.

EXAMPLE					
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	MANUFACTURE CODE	DESCRIPTION
TESDUB5V0 R4	TESDUB5V0	R4			
TESDUB5V0 R4G	TESDUB5V0	R4	G		Green compound
TESDUB5V0 R4	TESDUB5V0	R4		F0	
TESDUB5V0 R4G	TESDUB5V0	R4	G	F0	Green compound

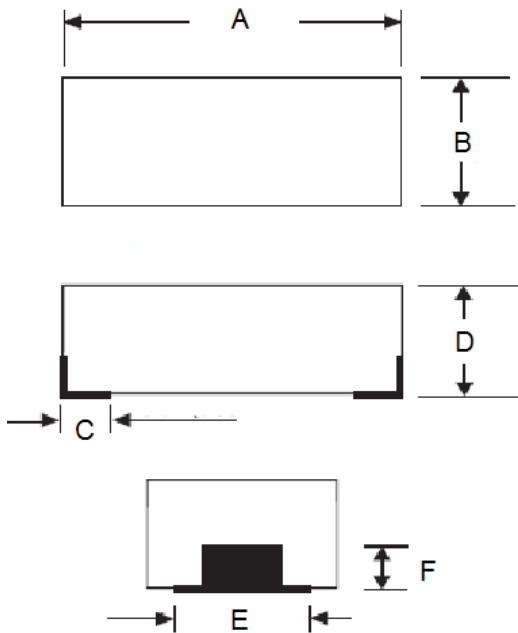
RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)



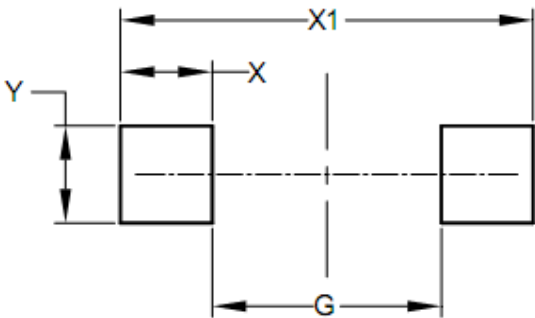
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DIMENSIONS



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	0.80	1.00	0.031	0.039
C	0.35 Typ.		0.014 Typ.	
D	0.70	0.85	0.028	0.033
E	0.70 Typ.		0.028 Typ.	
F	0.30 Typ.		0.012 Typ.	

SUGGESTED PAD LAYOUT



DIM.	Unit(mm)
G	0.80
X	0.60
X1	2.00
Y	0.80

MARKING

Part No.	Marking
TESDUB5V0	E05
TESDUB12V	E12
TESDUB24V	E24