



SE05Q2BDDDBH

ESD PROTECTION DIODE

FEATURES

- Low Clamping Voltage
- Low Leakage Current
- Suffix " H " indicated Halogen-free part, ex.SE05Q2BDDDBH

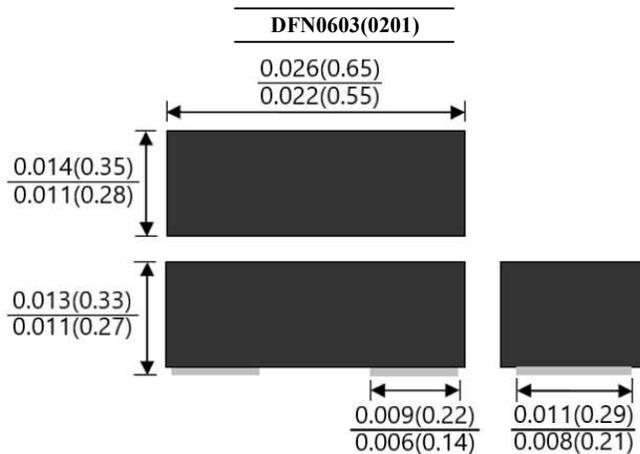
APPLICATIONS

- Cellular handsets and accessories
- Portable instrumentation
- Peripherals
- Notebooks, Desktops, Servers

MECHANICAL DATA

Case : DFN0603(0201)

PIN CONFIGURATION



Dimensions in inches and (millimeters)

Maximum Ratings (Rating at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Current (tp = 8/20μs)	I _{PP}	6	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Junction Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C



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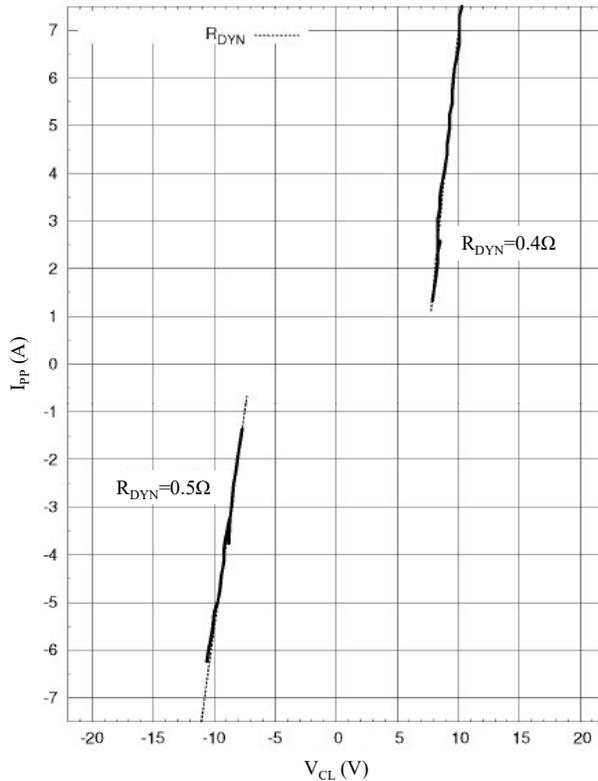
Electrical Characteristics (Rating at 25°C ambient temperature unless otherwise specified)

Parameter	Test Condition	Symbol	Min	Typ	Max	Units
Reverse Stand-Off Voltage	-	V_{RWM}	-5.5	-	5.5	V
Reverse Breakdown Voltage	$I_T=1\text{mA}$	V_{BR}	6	-	10	V
Reverse Leakage Current	$V_R=5.5\text{V}$	I_R	-	-	50	nA
Clamping Voltage	$I_{pp}=16\text{A}$, Pin 1 to GND (Note 1)	V_C	-	8.0	-	V
	$I_{pp}=30\text{A}$, Pin 1 to GND (Note 1)		-	10.8	-	
	$I_{pp}=16\text{A}$, GND to Pin 1 (Note 1)		-	8.5	-	
	$I_{pp}=30\text{A}$, GND to Pin 1 (Note 1)		-	12.5	-	
	$V_{ESD}=8\text{kV}$, $t_p=30\text{ns}$ (Note 2)		-	8.0	-	
	$I_{pp}=1\text{A}$, $t_p=8/20\mu\text{s}$		-	7.5	8.0	
	$I_{pp}=6\text{A}$, $t_p=8/20\mu\text{s}$		-	9.6	10.0	
Diode Capacitance	$V_R=0\text{V}$, $f=1\text{MHz}$	C_D	-	12	20.0	pF
Dynamic resistance	Pin 1 to GND (Note 1)	R_{DYN}	-	0.13	-	Ω
	GND to Pin 1 (Note 1)		-	0.16	-	

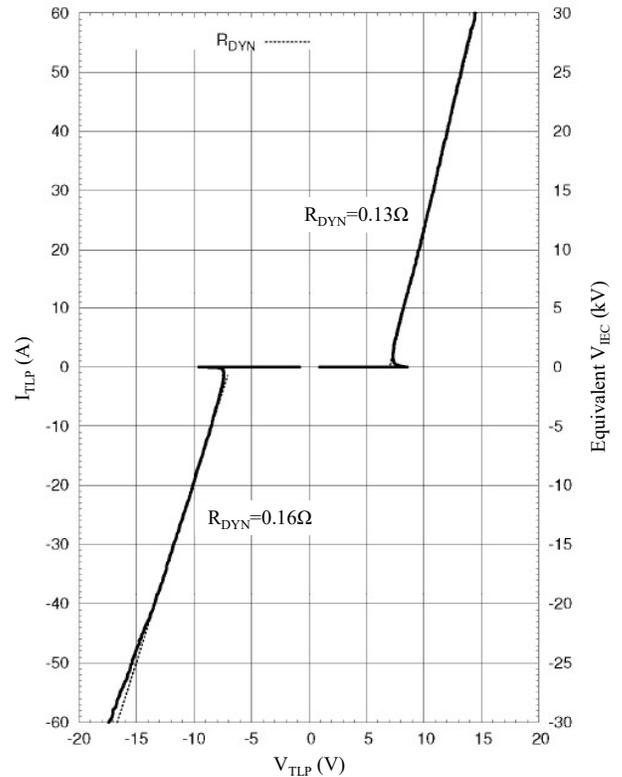
Note :

- Electrostatic Discharge Sensitive Testing using Transmission Line Pulse (TLP) Model. TLP conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$, $t_r=0.6\text{ns}$, I_{TLP} and V_{TLP} averaging window: $t_1=30\text{ns}$ to $t_2=60\text{ns}$, extraction of dynamic resistance using least squares fit of TLP characteristic between $I_{TLP1}=10\text{A}$ and $I_{TLP2}=40\text{A}$.
- V_{ESD} according to IEC61000-4-2 ($R=330\Omega$, $C=150\text{pF}$ discharge network).

RATINGS AND CHARACTERISTIC CURVES



Pulse current (IEC61000-4-5) versus clamping voltage

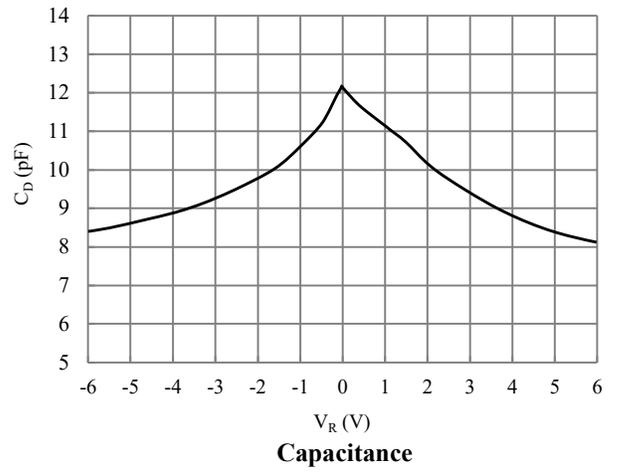
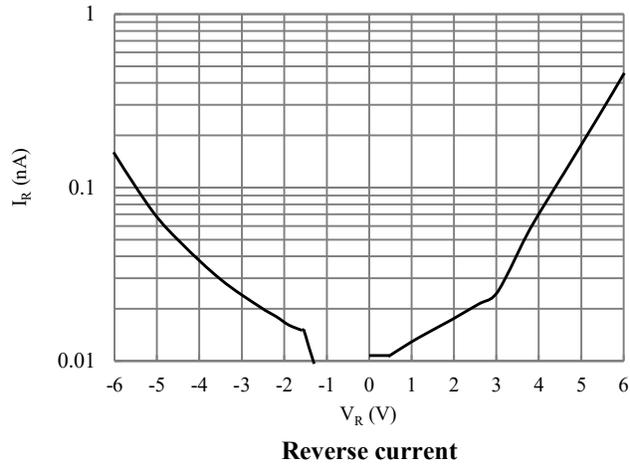


Electrostatic Discharge Sensitive Testing using Transmission Line Pulse (TLP) Model. TLP conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$, $t_r=0.6\text{ns}$, I_{TLP} and V_{TLP} averaging window: $t_1=30\text{ns}$ to $t_2=60\text{ns}$, extraction of dynamic resistance using least squares fit of TLP characteristic between $I_{TLP1}=10\text{A}$ and $I_{TLP2}=40\text{A}$.



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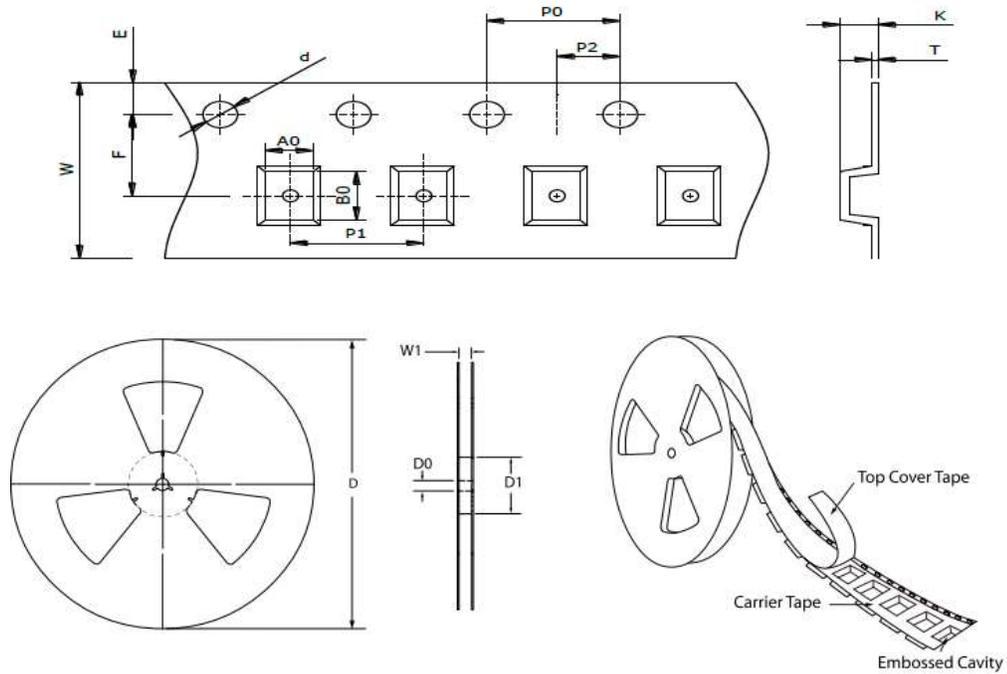




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ESD PROTECTION DIODE

TAPE & REEL SPECIFICATION



Item	Symbol	DFN0603(0201)
Carrier width	A ₀	0.50 ± 0.10
Carrier length	B ₀	0.80 ± 0.10
Carrier depth	K	0.55 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D ₀	13.00 ± 0.50
Reel inner diameter	D ₁	MIN. 54.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P ₀	4.00 ± 0.10
Punch hole pitch	P ₁	2.00 ± 0.10
Embossment center	P ₂	2.00 ± 0.10
Overall tape thickness	T	MAX. 0.60
Tape width	W	8.00 ± 0.30
Reel width	W ₁	8.40 ± 1.50

ORDER INFORMATION

Package	Reel Size	Quantity
DFN0603(0201)	7"	10,000

MARKING CODE

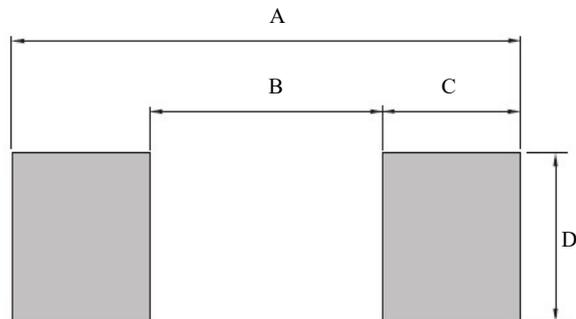
Part Number	Marking Code
SE05Q2BDDDBH	RA



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SUGGESTED SOLDER PAD LAYOUT



Unit:mm

PACKAGE	A	B	C	D
DFN0603 (0201)	0.675	0.175	0.25	0.27