

Features

- Low Capacitance
- Low Operating Voltage
- Low Clamping Voltage
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C

MCC Part Number	Device Marking
ESDLC3603P3	3654P / 3603

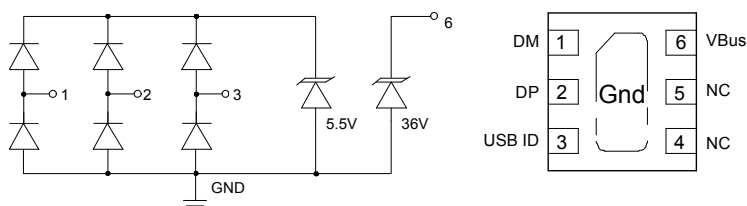
DP, DM, USB ID (Pins 1, 2, 3)

IEC61000-4-2(ESD)	Air Contact	±25KV ±20KV
IEC61000-4-4 (EFT) @5/50ns		40A
Peak Pulse Current(8/20µs)	I _{PP}	5A
Peak Pulse Power (8/20µs)	P _{PK}	100W

VBus (Pin 6)

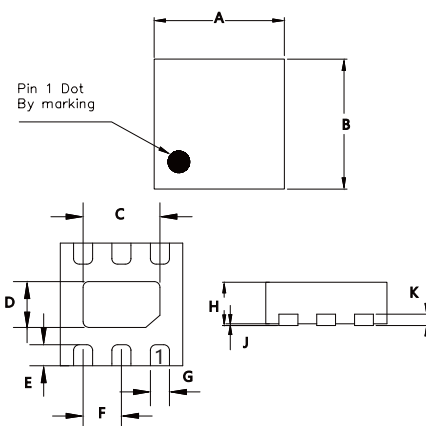
IEC61000-4-2(ESD)	Air Contact	±25KV ±20KV
IEC61000-4-4 (EFT) @5/50ns		40A
Peak Pulse Current(8/20µs)	I _{PP}	4A
Peak Pulse Power (8/20µs)	P _{PK}	300W

Circuit and Pin Schematic



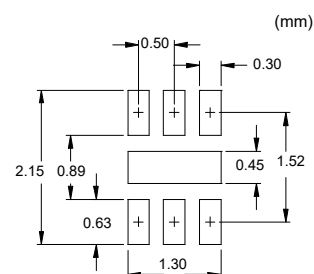
ESD Protection Device

DFN1616-6



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.061	0.065	1.55	1.65	
B	0.061	0.065	1.55	1.65	
C	0.035	0.041	0.90	1.05	
D	0.020	0.026	0.50	0.65	
E	0.008	0.012	0.20	0.30	
F	0.020		0.50		TYP.
G	0.008	0.012	0.20	0.30	
H	0.020	0.024	0.50	0.60	
J	0.000	0.002	0.00	0.05	
K	0.006		0.15		TYP.

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
DP, DM, USB ID TVS						
Reverse Working Voltage	V_{RWM}	Any I/O Pin to Ground			5.5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, Any I/O Pin to Ground	6.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 5.5\text{V}$, Any I/O Pin to Ground			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$, Any I/O Pin to Ground			10	V
Clamping Voltage	V_C	$I_{PP} = 5\text{A}$, $t_p = 8/20\mu\text{s}$, Any I/O Pin to Ground			20	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Between Any I/O Pins			0.5	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Any I/O Pin to Ground			0.8	pF
VBus TVS						
Reverse Working Voltage	V_{RWM}	Pin 6 to Ground			36	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, Pin 6 to Ground	38		45	V
Reverse Leakage Current	I_R	$V_{RWM} = 5.5\text{V}$, Pin 6 to Ground			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$, Pin 6 to Ground			50	V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$, Pin 6 to Ground			75	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Pin 6 to Ground			100	pF

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

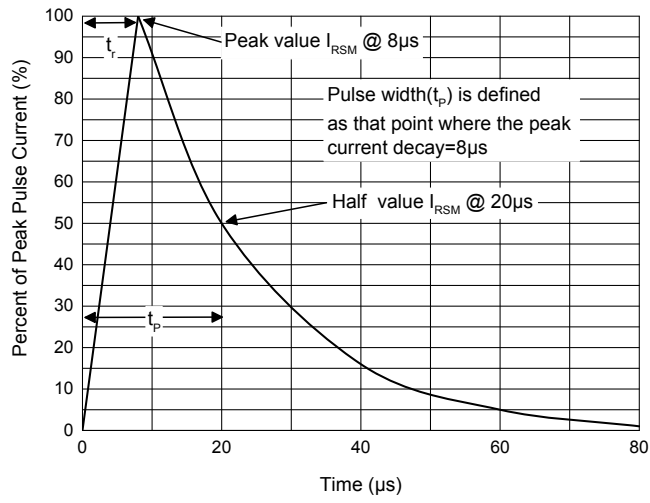
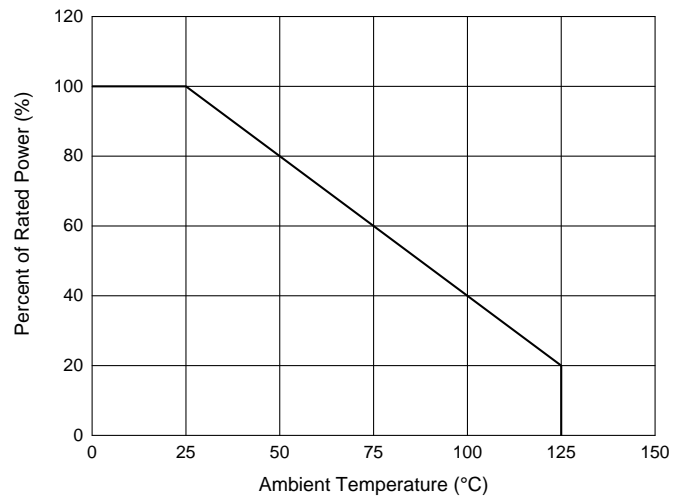


Fig. 2 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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