

DESCRIPTION

The SELC0504F provides a typical line to line capacitance of 0.6pF and low insertion loss up to 3GHz providing greater signal integrity making it ideally suited for USB 2.0 applications, such as Digital TVs, Computer, set-top boxes and MDDI applications in mobile computing devices.

The SELC0504F has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

FEATURES

- >Protects four I/O lines and one Vcc line
- >Low capacitance
- >Working voltages : 5V
- >Low leakage current
- >Low capacitance (<2.0pF) for high-speed interfaces
- >No insertion loss to 3.0GHz
- >Response Time is < 1 ns
- >Meets MSL 1 Requirements
- >Solid-state silicon avalanche technology
- >ROHS compliant

APPLICATIONS

- >USB OTG
- >Video Graphics Cards
- >Monitors and Flat Panel Displays
- >10/100/1000 Ethernet
- >SIM Ports
- >ATM Interfaces

IEC COMPATIBILITY

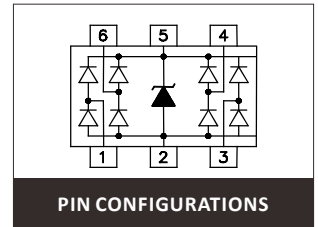
- >IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- >IEC61000-4-4 (EFT) 40A (5/50ns)
- >IEC61000-4-5 (Lightning) 5A (8/20 μs)

MAXIMUM RATINGS @ 25°C UNLESS OTHERWISE SPECIFIED

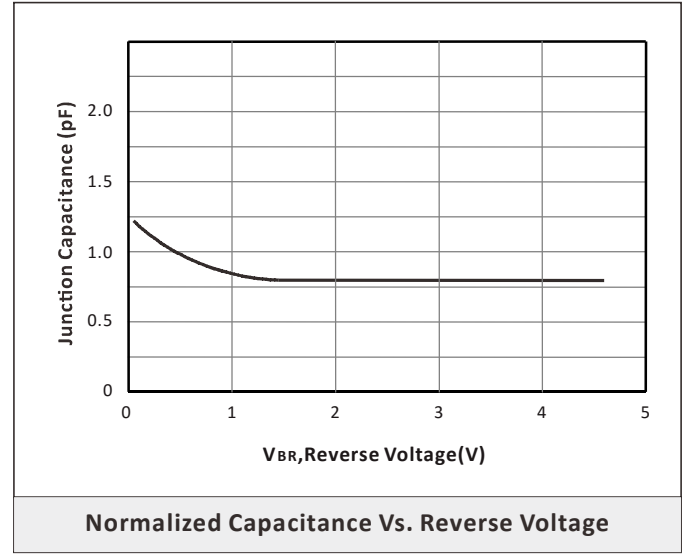
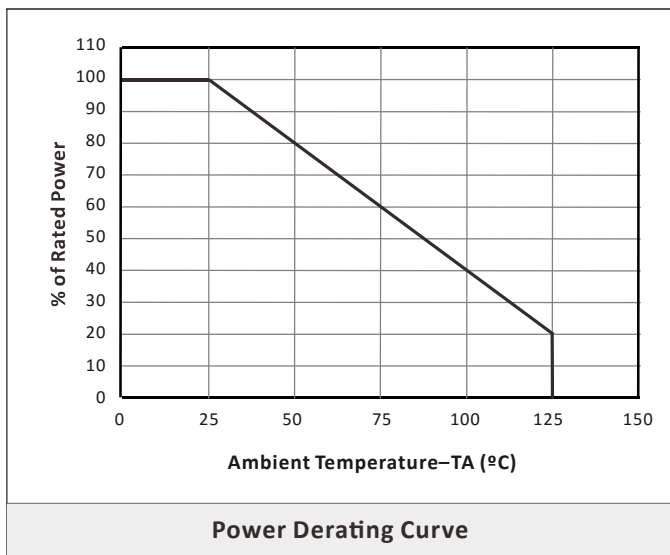
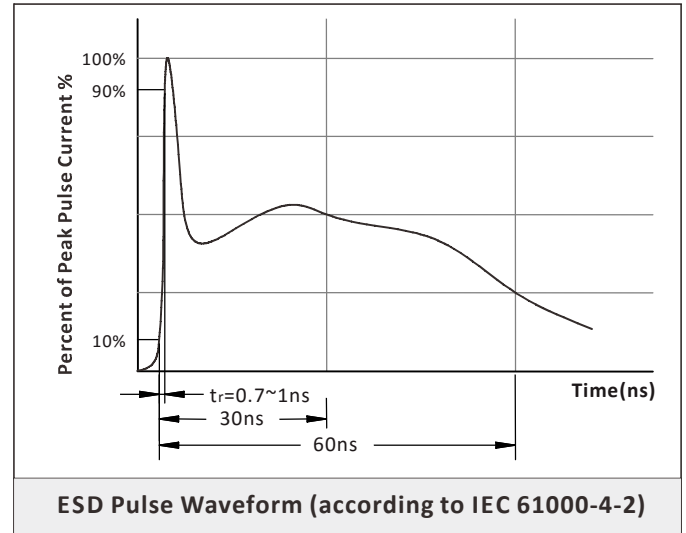
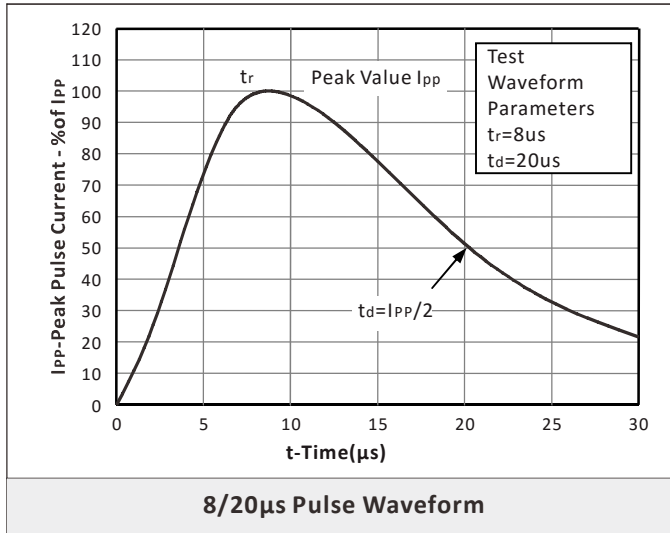
PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power ($t_p=8/20\mu\text{s}$ waveform)	PPP	150	Watts
Lead Soldering Temperature	T _L	260(10 sec.)	°C
Operating Temperature Range	T _J	-55~125	°C
Storage Temperature Range	T _{STG}	-55~150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C UNLESS OTHERWISE SPECIFIED

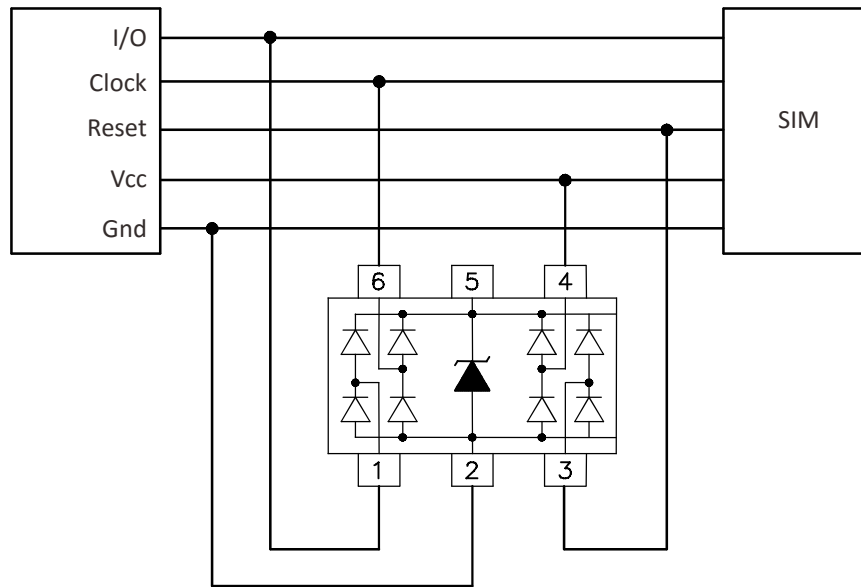
PART NUMBER	DEVICE MARKING	V _{RWM}	V _{BR}	I _T	V _C @1A	V _C		I _R	C _T
		(V) Max.	(V) Min.	(mA)	Max.	Max.	@A	(μA) Max.	(pF) Typ.
SELC0504F	B54	5.0	6.0	1	15.0	25.0	6.0	1	2



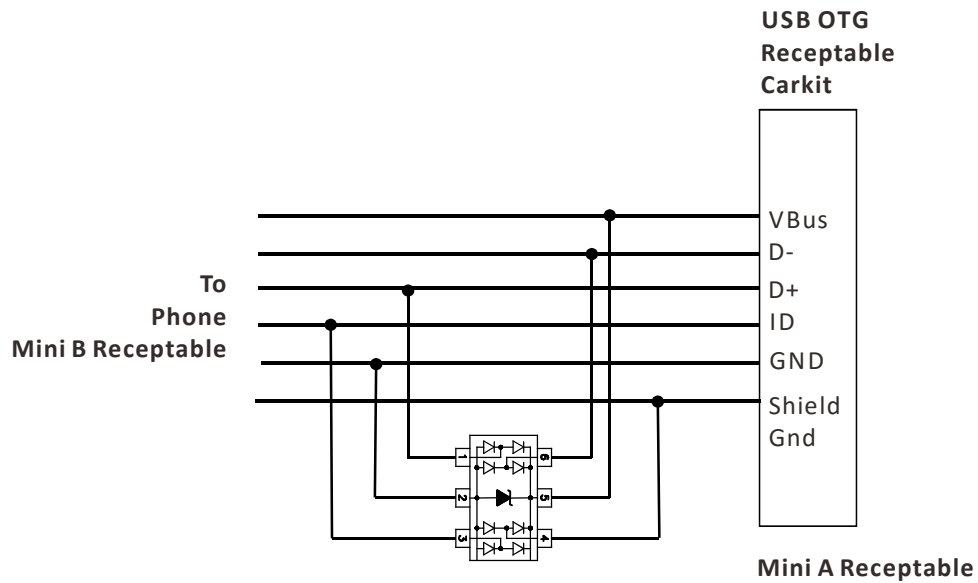
CHARACTERISTIC CURVES



TYPICAL APPLICATIONS

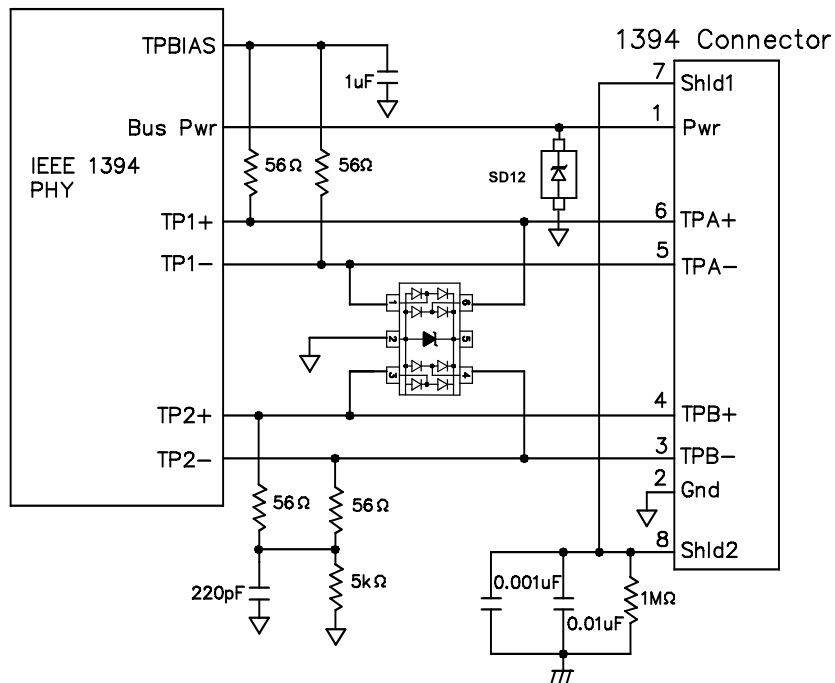
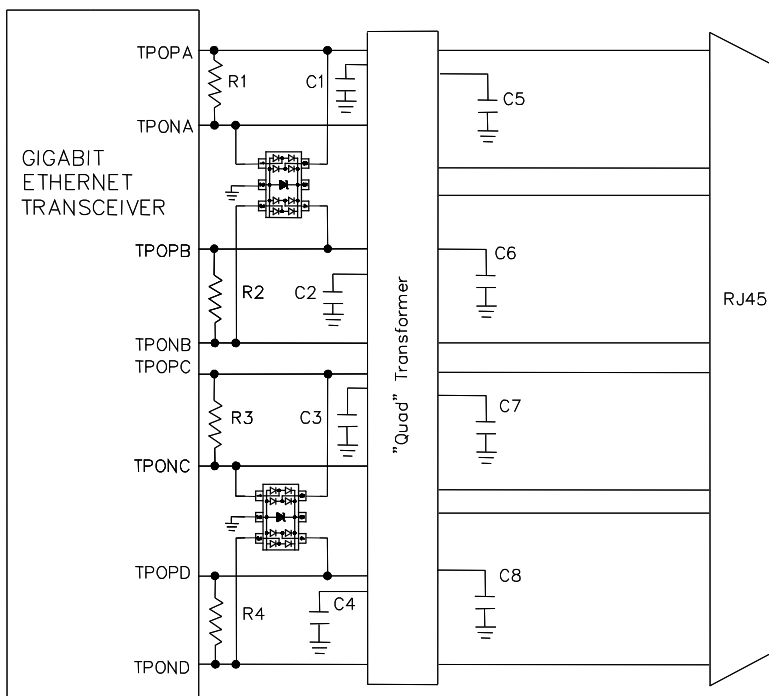


SIM Port - Protection of Three Data Lines and Vcc



USB OTG CarKit Protection



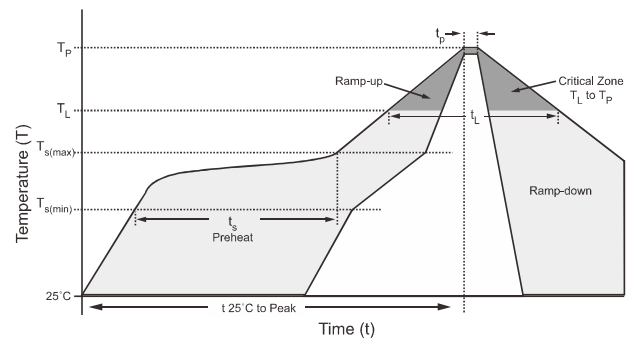
TYPICAL APPLICATIONS

IEEE 1394 Firewire Protection

Gigabit Ethernet Protection


ENVIRONMENTAL CHARACTERISTICS

Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature:150±3°C,Bias=80%V _{DRM} ;Time:168H
High Temperature Life Test	Temperature:150°C;Time:168H
High-Low Temperature Cycle Test	Temperature:From -40°C to 150°C;Dwell Time:30min,10-100 Cycles
High Temperature&High Humidity Test	Temperature:85°C.Humidity:85%; Time:168H
Pressure Cooker Test	Temperature:121°C,2 atm.Humidity:100%; Time:24H To 168H
Resistance Of Soldering Heat	Temperature:260±5°C;Time Of Dip Soldering:10s,3 Times

REFLOW PROFILE

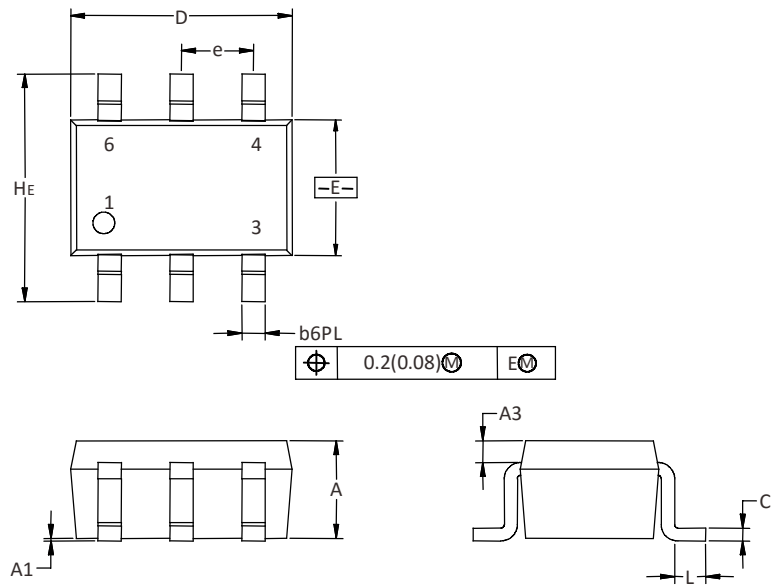
Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak		3°C/second max
Ts(max)to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	Time (min to max) (ts)	60 – 150 seconds
Peak Temperature (TP)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		260°C



SOT-363 PACKAGE INFORMATION

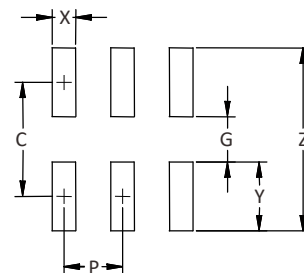
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.10	0.031	0.037
A1	0.00	0.10	0.000	0.002
A3	0.20 REF.		0.08 REF.	
b	0.10	0.30	0.004	0.012
C	0.10	0.25	0.004	0.010
D	1.80	2.20	0.070	0.086
E	1.15	1.35	0.045	0.053
e	0.65 BSC.		0.026 BSC.	
L	0.10	0.30	0.004	0.012
HE	2.00	2.20	0.078	0.086

NOTES 1. Controlling dimension: inches. 2. Dimensions are exclusive of mold flash and metal burrs.				
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PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
C	1.90	0.075
G	1.40	0.055
P	0.65	0.025
X	0.40	0.016
Y	0.50	0.019
Z	2.40	0.095

NOTES 1. Controlling dimension: inches.		
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ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SELC0504F	SOT-363	3000PCS	7"



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