MicroCapacitance (MC) *SIDACtor*® Device

RoHS

Littelfuse

These TO-92 MC *SIDACtor* devices are intended for applications sensitive to load values. Typically, high speed connections, such as xDSL and T1/E1, require a lower capacitance. C_O values for the MicroCapacitance device are 40 percent lower than a standard EC part.

This MC *SIDACtor* series enables equipment to comply with various regulatory requirements including GR 1089, ITU K.20, K.21, and K.45, IEC 60950, UL 60950, and TIA-968-A (formerly known as FCC Part 68) without the need of series resistors.

Electrical Parameters

Part Number *	V_{DRM} Volts	V_S Volts	V_T Volts	I_{DRM} µAmps	I_S mAmps	I_T Amps	I_H mAmps
P0080ECMCL	6	25	4	5	800	2.2	50
P0300ECMCL	25	40	4	5	800	2.2	50
P0640ECMCL	58	77	4	5	800	2.2	150
P0720ECMCL	65	88	4	5	800	2.2	150
P0900ECMCL	75	98	4	5	800	2.2	150
P1100ECMCL	90	130	4	5	800	2.2	150
P1300ECMCL	120	160	4	5	800	2.2	150
P1500ECMCL	140	180	4	5	800	2.2	150
P1800ECMCL	170	220	4	5	800	2.2	150
P2300ECMCL	190	260	4	5	800	2.2	150
P2600ECMCL	220	300	4	5	800	2.2	150
P3100ECMCL	275	350	4	5	800	2.2	150
P3500ECMCL	320	400	4	5	800	2.2	150

* **"L" in part number indicates RoHS compliance.** For non-RoHS compliant device, delete "L" from part number.
For surge ratings, see table below.

General Notes:
- All measurements are made at an ambient temperature of 25 °C. I_{PP} applies to -+40 °C through +85 °C temperature range.
- I_{PP} is a repetitive surge rating and is guaranteed for the life of the product.
- Listed *SIDACtor* devices are bi-directional. All electrical parameters and surge ratings apply to forward and reverse polarities.
- V_{DRM} is measured at I_{DRM}.
- V_S is measured at 100 V/µs.
- Special voltage (V_S and V_{DRM}) and holding current (I_H) requirements are available upon request.

Surge Ratings in Amps

Series	I_{PP}									I_{TSM} 50 / 60 Hz	di/dt
	0.2x310 * 0.5x700 **	2x10 * 2x10 **	8x20 * 1.2x50 **	10x160 * 10x160 **	10x560 * 10x560 **	5x320 * 9x720 **	10x360 * 10x360 **	10x1000 * 10x1000 **	5x310 * 10x700 **		
	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/µs
C	50	500	400	200	150	200	175	100	200	30	500

* Current waveform in µs
** Voltage waveform in µs

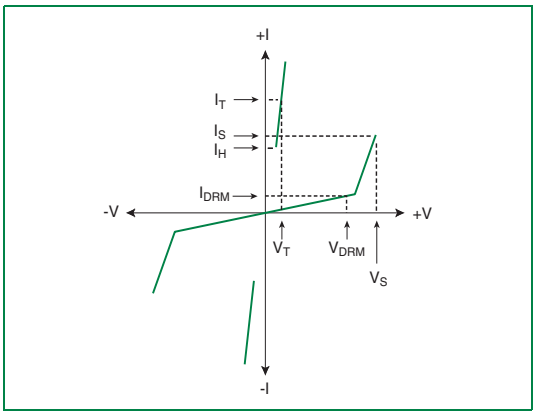
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
TO-92 	T_J	Operating Junction Temperature Range	-40 to +150	°C
	T_S	Storage Temperature Range	-65 to +150	°C
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	°C/W

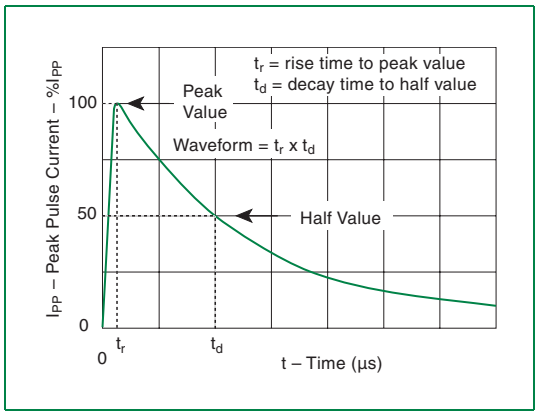
Capacitance Values

Part Number	pF	
	MIN	MAX
P0080ECMCL	35	75
P0300ECMCL	25	45
P0640ECMCL	55	85
P0720ECMCL	50	75
P0900ECMCL	45	70
P1100ECMCL	45	70
P1300ECMCL	40	60
P1500ECMCL	35	55
P1800ECMCL	35	50
P2300ECMCL	30	50
P2600ECMCL	30	45
P3100ECMCL	30	45
P3500ECMCL	25	40

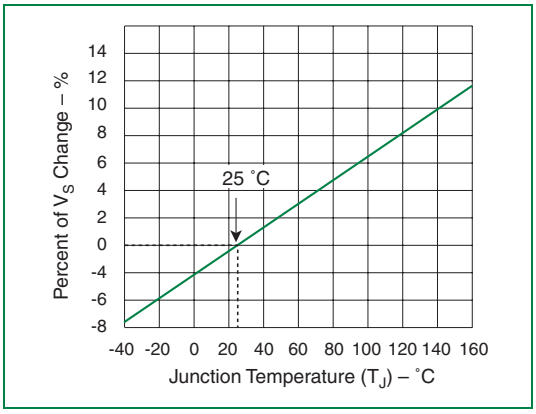
Note: Off-state capacitance (C_O) is measured at 1 MHz with a 2 V bias.



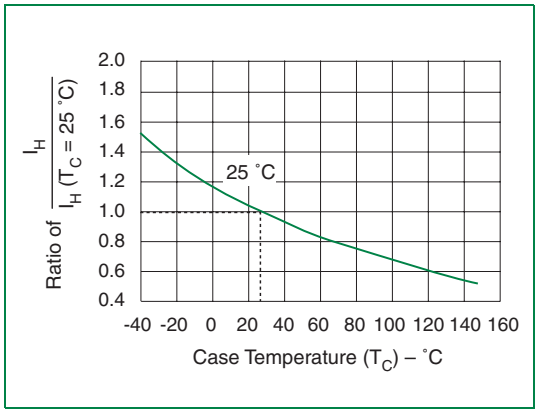
V-I Characteristics



t_r x t_d Pulse Waveform



Normalized V_S Change versus Junction Temperature



Normalized DC Holding Current versus Case Temperature

