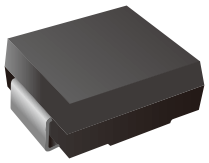
LT5C40 THRU LT5C100

Surface Mount Schottky Barrier Rectifier



Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Functional Diagram

Mechanical Data

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 217mg / 0.0077oz

Absolute Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Parameter	Symbols	LT5C40	LT5C45	LT5C50	LT5C60	LT5C100	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	45	50	60	100	V
Maximum RMS voltage	V_{RMS}	28	32	35	42	70	V
Maximum DC Blocking Voltage	V_{DC}	40	45	50	60	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0					A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150					A
Max Instantaneous Forward Voltage at 5 A	V_F	0.45			0.50	0.60	V
Maximum DC Reverse Current T_a = 25°C at Rated DC Reverse Voltage T_a =100°C	I_R	0.5 50					mA
Typical Junction Capacitance (1)	C_j	500	300				pF
Typical Thermal Resistance (2)	$R_{\theta JA}$	60					°C/W
Operating Junction Temperature Range	T_j	-55 ~ +150					°C
Storage Temperature Range	T_{stg}	-55 ~ +150					°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Characteristic Curves

Fig.1 Forward Current Derating Curve

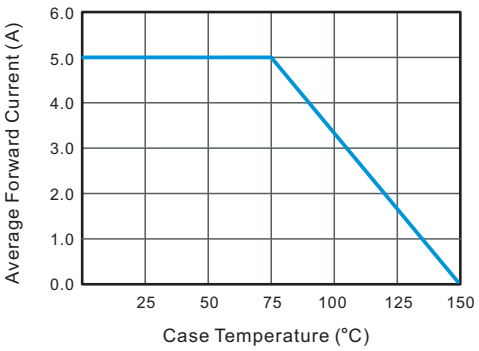


Fig.2 Typical Reverse Characteristics

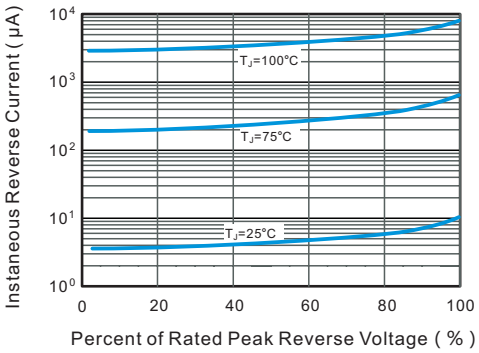


Fig.3 Typical Forward Characteristic

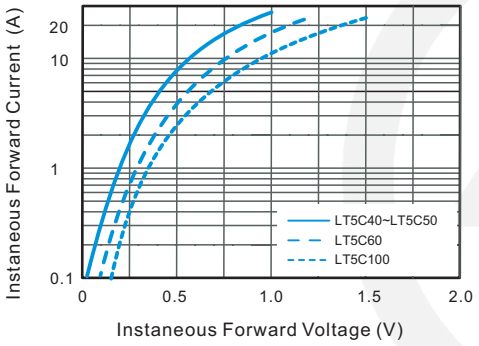


Fig.4 Typical Junction Capacitance

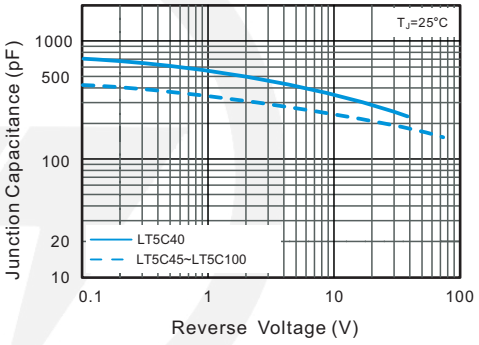


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

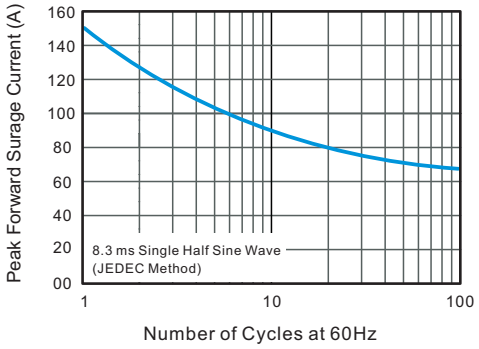
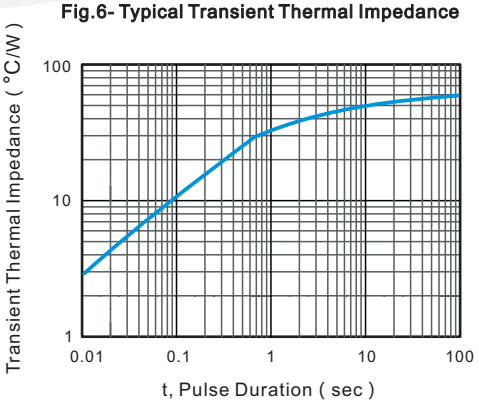
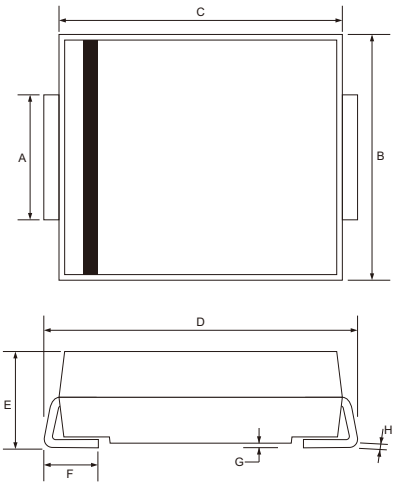


Fig.6- Typical Transient Thermal Impedance



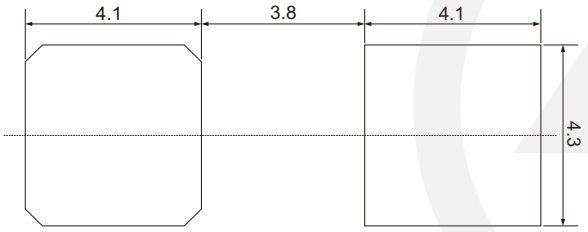
SMC Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	2.75	3.27
B	5.59	6.22
C	6.50	7.11
D	7.60	8.13
E	1.99	2.80
F	0.76	1.60
G	0.05	0.31
H	0.10	0.31

SMC Suggested Pad Layout



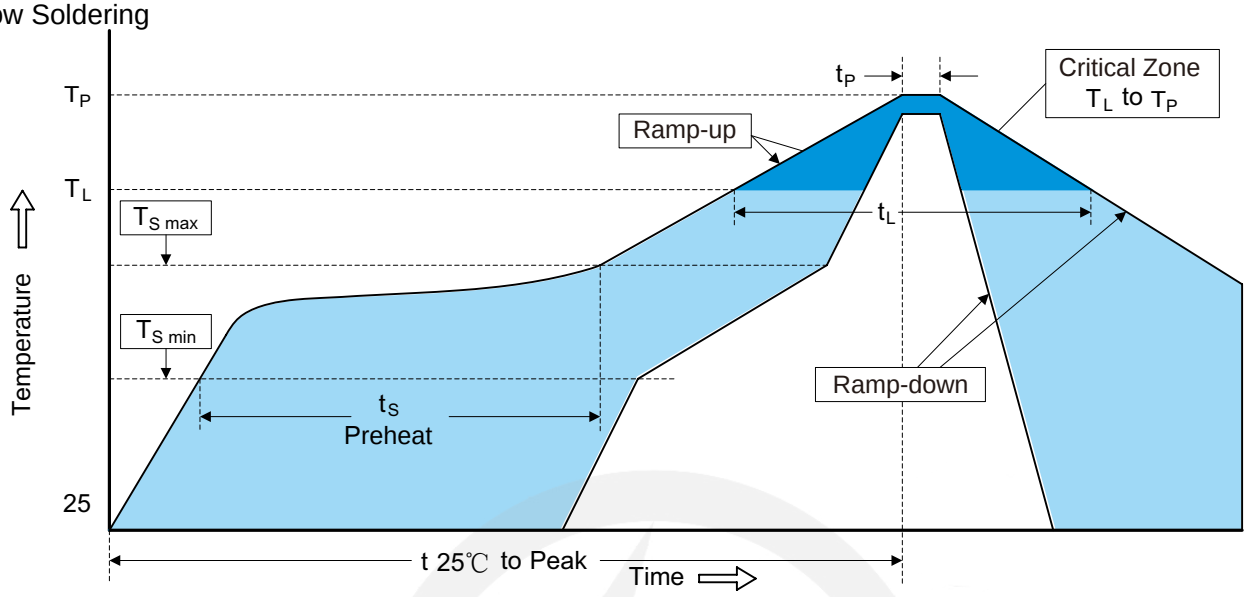
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Marking

Type number	Marking code
LT5C40	SSL54
LT5C45	SSL545
LT5C50	SSL55
LT5C60	SSL56
LT5C100	SSL510

Recommended Soldering Conditions

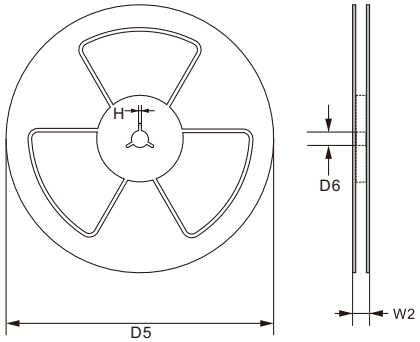
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

13” Reel



D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	16.0
Quantity: 3000PCS	