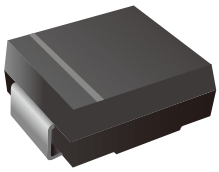
LT5C40

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
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.24g

Ordering Information

Part Number	Marking	Shipping	Reel
LT5C40-TR3	LT5C40	3000PCS Tape&Reel	13 inchs

Maximum Ratings and Electrical Characteristics

Ratings at25°Cambient temperature unless otherwise specified.Single phase, half wave, 60Hz resistive or inductive load,for capacitive load, derate by 20 %.

Parameter	Symbols	LT5C40	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC Blocking Voltage	V_{DC}	40	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	V
Maximum DC Reverse Current at Ta = 25°C Rated DC Reverse Voltage Ta =100°C	I_R	0.5 50	mA
Typical Junction Capacitance (1)	C_j	500	pF
Typical Thermal Resistance (2)	$R_{\theta JA}$	60	°C/W
Operating Junction Temperature Range	T_j	-55 to +150	°C
Storage Temperature Range	T_{stg}	-55 to +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 cm X 5 cm) copper pad areas.

Characteristics Curves

Fig.1 Forward Current Derating Curve

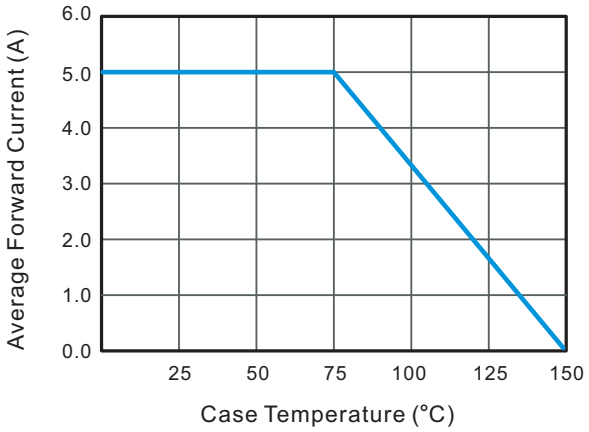


Fig.2 Typical Reverse Characteristics

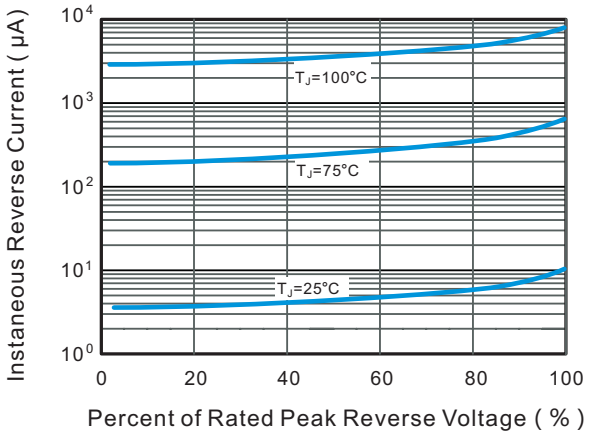


Fig.3 Typical Forward Characteristic

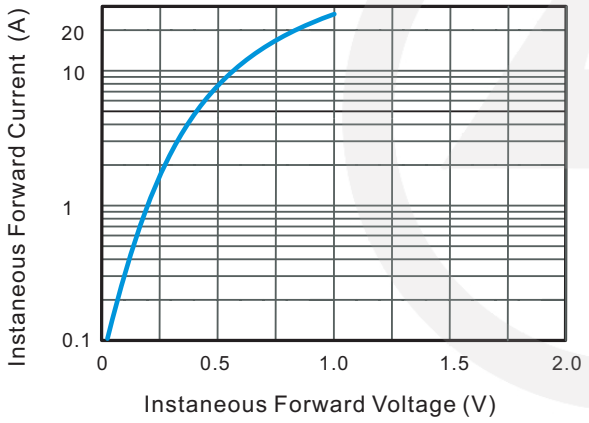


Fig.4 Typical Junction Capacitance

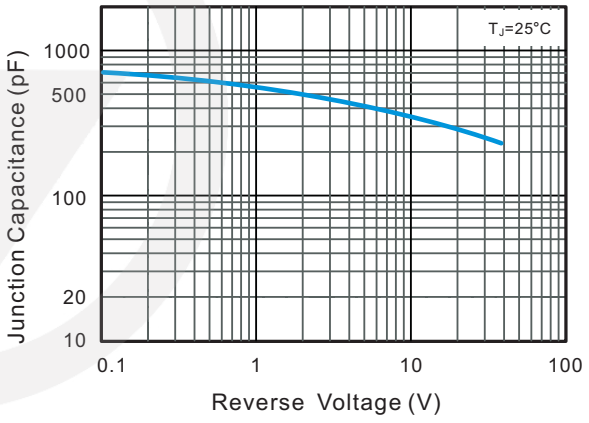


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

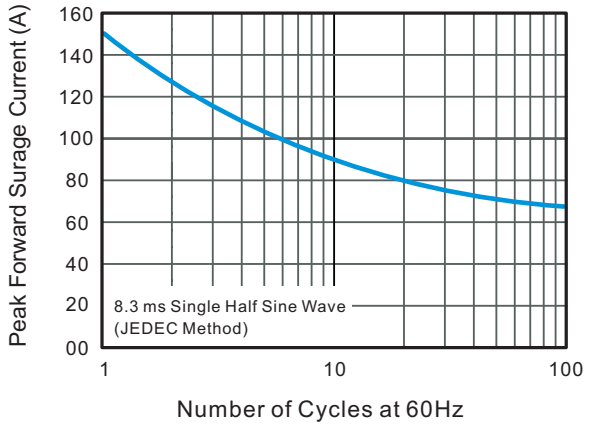
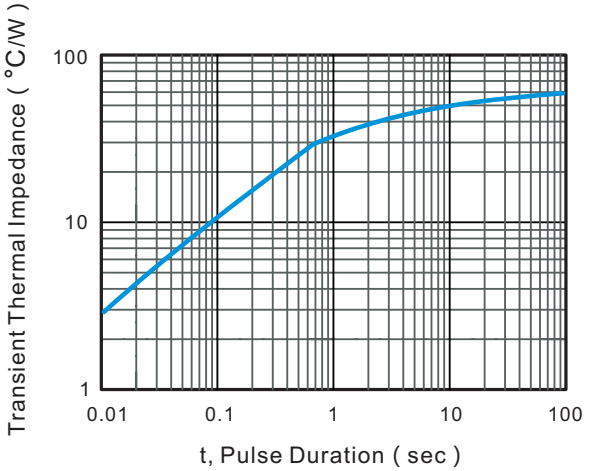
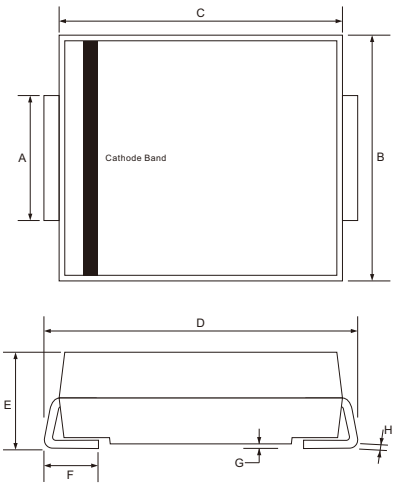


Fig.6 Typical Transient Thermal Impedance



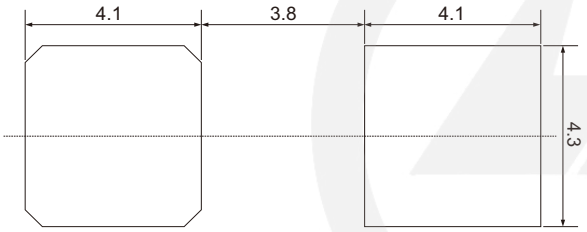
SMC Package Outline



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

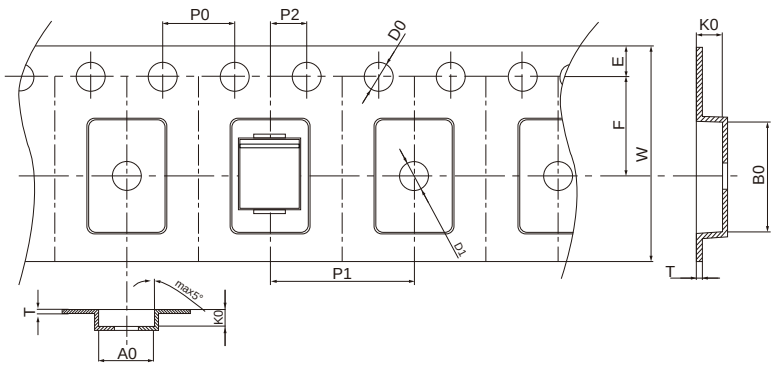
SMC Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

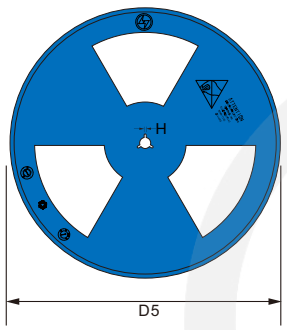


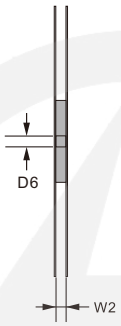
Symbol	Spec	Symbol	Spec
A0	6.25±0.10	D0	1.55±0.05
B0	8.35±0.10	D1	1.55±0.05
K0	2.50±0.10	T	0.25±0.05
P0	4.00±0.10	E	1.75±0.10
P1	8.00±0.10	F	7.50±0.05
P2	2.00±0.05	W	16.0 $^{+0.3}_{-0.1}$

Reel Dimensions

Unit：mm

13” Reel

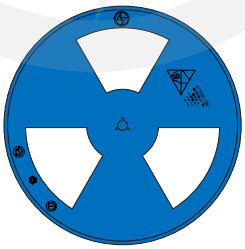




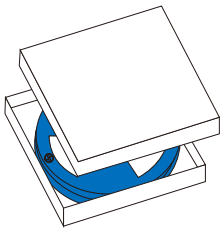
D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 3000PCS	

Packaging

3000PCS/Reel



2Reel/Inner Box
6KPCS/Inner Box



Dim(Unit:mm)
340mm*340mm*50mm

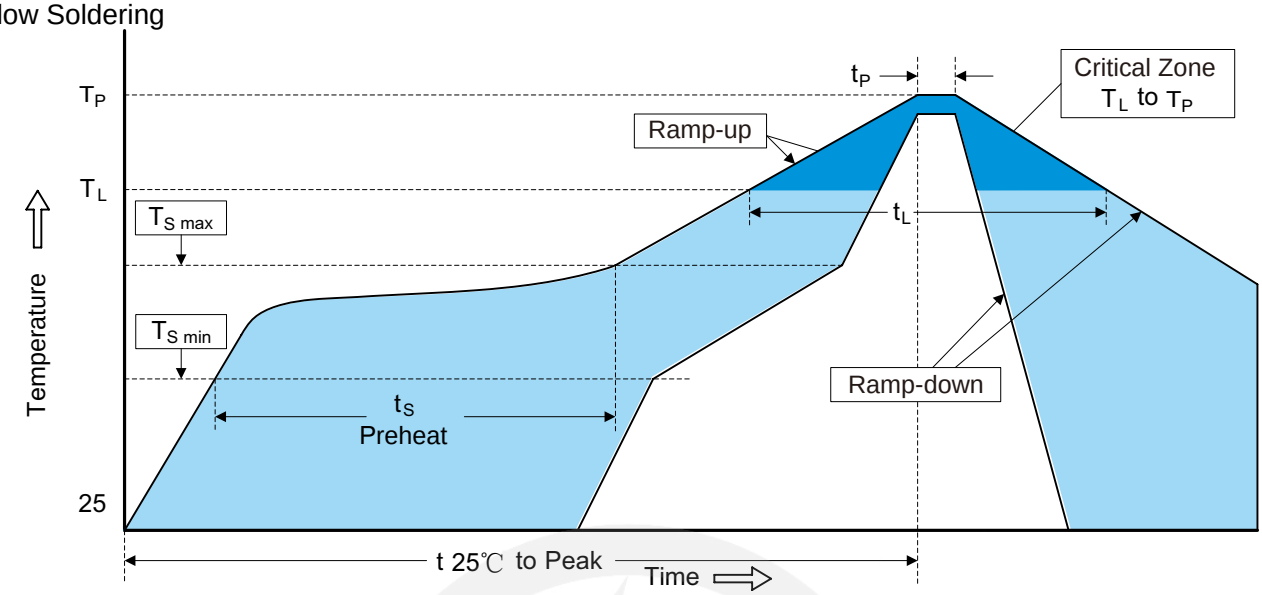
7Boxs per carton
42KPCS per carton

Dim(Unit:mm)
360mm*360mm*355mm

13 inchs Reel

Recommended Soldering Conditons

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.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision Content	Revision Reason	Revision Person	Note
01	2025.07.05	2025.07.05	3.0	New file	/	Ding	