



**TO-220AB/ITO-220AB Plastic-Encapsulate Diode**

SR1045LCT SRF1045LCT SR1045LD1 SR1045LM1

LOW VF SCHOTTKY BARRIER RECTIFIER ,

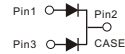
IF(AV)	2× 5A
VRRM	45V
IFSM	150A
VF at IF=5.0A (125°C)	0.43V
IR	100 μ A
TJ(MAX)	150°C
Package	TO-220AB, ITO-220AB, TO-263, TO-252
Diode variations	Common cathode

**TO-220AB**

**SR1045LCT**



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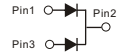


**ITO-220AB**

**SRF1045LCT**

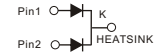


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**TO-252**

**SR1045LM1**



**TO-263**

**SR1045LD1**



**FEATURES**

- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020, LF MAX peak of 245°C (for TO-263,252 package)
- Solder bath temperature 275°C maximum,10s,per JESD22-B10 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU

**MAXIMUM RATINGS**

(Ratings at 25°C ambient temperature unless otherwise specified )

Parameter	Symbol	SR1045LCT, SRF1045LCT, SR1045LD1,SR1045LM1	Unit
Maximum repetitive peak reverse voltage	VRRM	45	V
Maximum average forward rectified current (see fig.1)	Per leg	5.0	A
	Total device	10.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	IFSM	150	A
Peak repetitive reverse current per diode at tp=2 μ s 1KHz	IRRM	1.0	A
Operating junction and Storage temperature range	TJ ,Tstg	-55 to+150	°C
Isolation voltage (ITO-220AB only) from terminals to heatsink t=1 min	VAC	1500	V

## Typical Characteristics

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per Leg I <sub>F</sub> =5.0A	T <sub>A</sub> =25°C	V <sub>F</sub> <sup>1)</sup>	0.43	0.45	V
		T <sub>A</sub> =100°C		0.35	–	
		T <sub>A</sub> =125°C		0.33	–	
	Per Leg I <sub>F</sub> =3.0A	T <sub>A</sub> =25°C		0.40	0.42	
		T <sub>A</sub> =100°C		0.31	–	
		T <sub>A</sub> =125°C		0.29	–	
Reverse current	V <sub>R</sub> =60V	T <sub>A</sub> =25°C	I <sub>R</sub> <sup>2)</sup>	100	200	μA
		T <sub>A</sub> =100°C		10	20	mA
		T <sub>A</sub> =125°C		70	50	
Typical junction capacitance	4V, 1MHz		C <sub>J</sub>	370		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

### THERMAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

Parameter	Symbol	SR1045LCT	SRF1045LCT	SR1045LD1	SR1045LM1	Unit
Typical thermal resistance <sup>3)</sup>	R <sub>θJC</sub>	2.5	4.5	2.5	2.5	°C/W

3.Thermal resistance from junction to case

### AVAILABLE PACK INFORMATION

Product code	Package	Box Size L×W×H(mm)	Quantity (pcs/box)	Carton SizeL×W×H(mm)	Quantity (box/carton)
SR1045LCT-TO-220AB	P/T	558×148×38	1000	565×225×170	5
SRF1045LCT-ITO-220AB	P/T	558×148×38	1000	565×225×170	5
SR1045LD1-TO-263	P/T	558×148×38	1000	565×225×170	5
SR1045LM1-TO-252	P/T	558×148×38	4000	565×225×170	5

# Typical Characteristics

FIG.1-FORWARD CURRENT DERATING CURVE

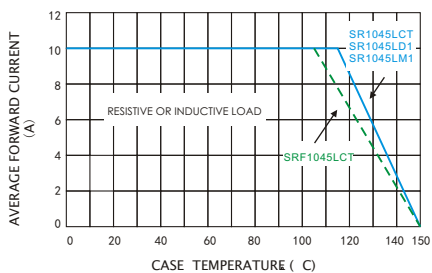


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

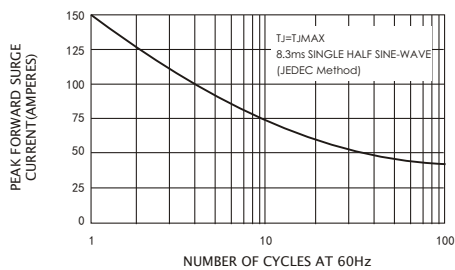


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

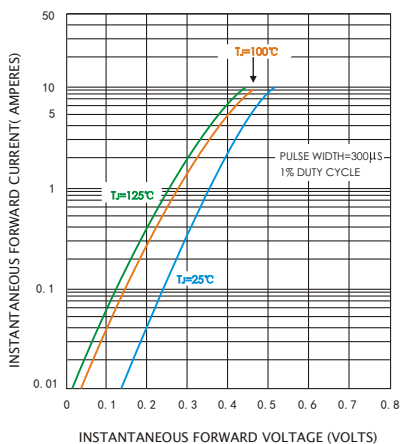


FIG.4-TYPICAL REVERSE CHARACTERISTICS

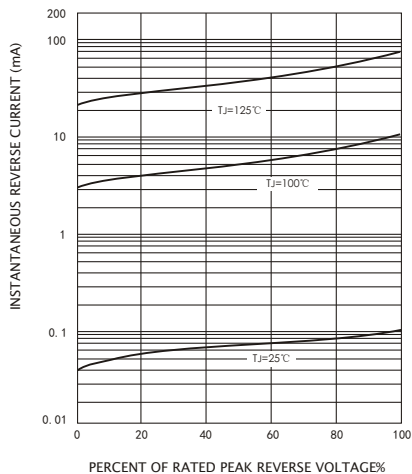
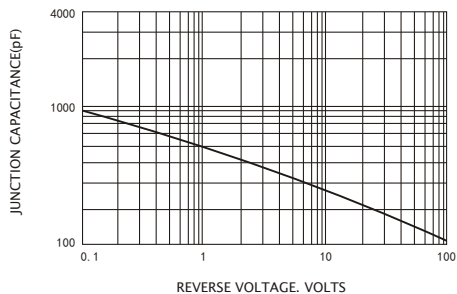
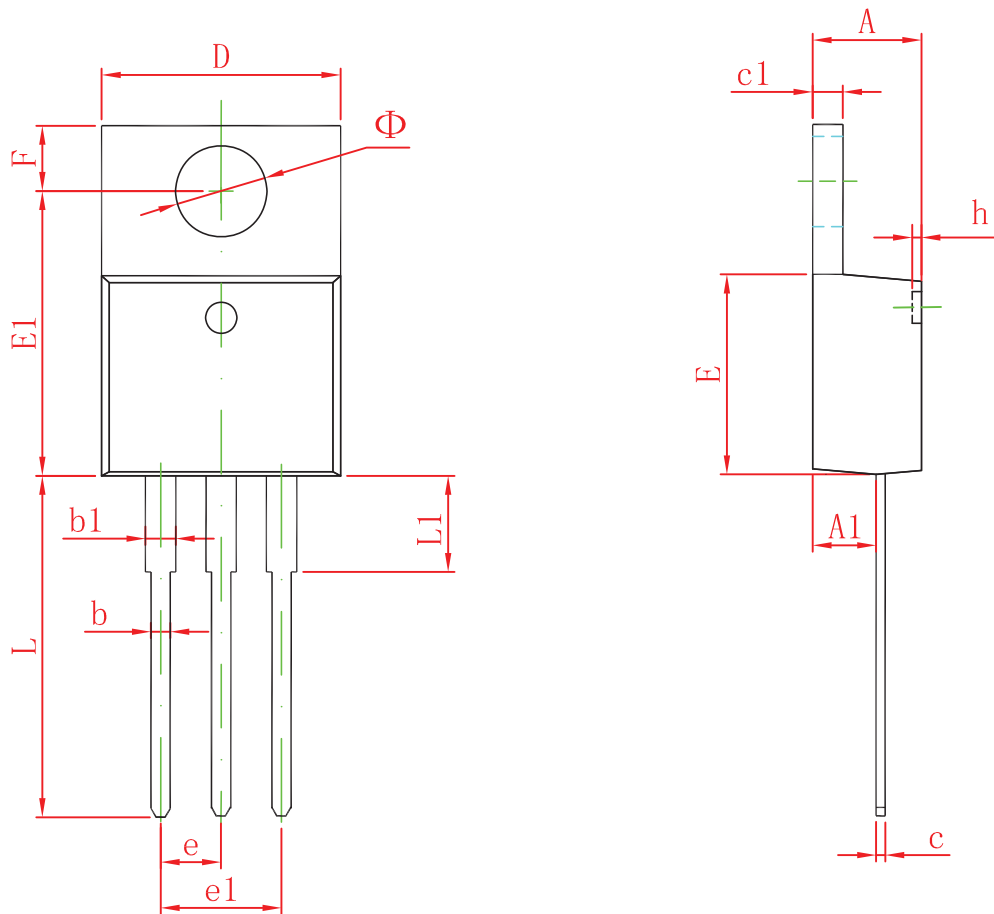


FIG.5-TYPICAL JUNCTION CAPACITANCE

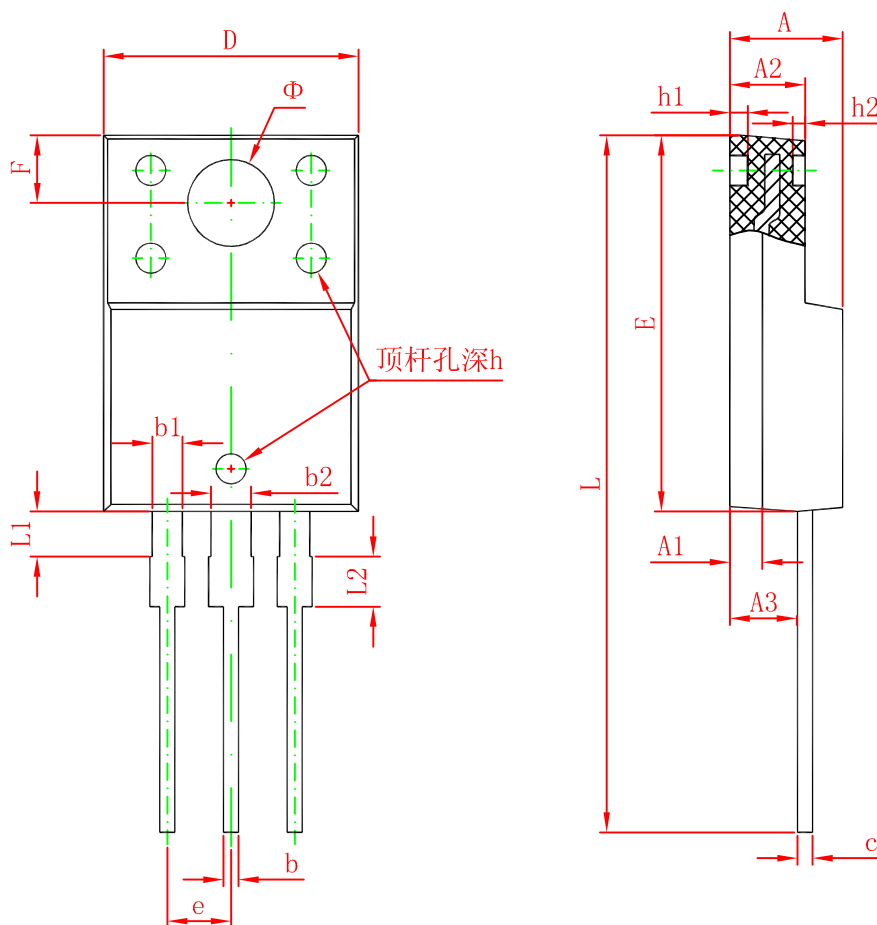


# TO-220AB Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.450	4.750	0.175	0.187
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.300	0.500	0.012	0.020
c1	1.170	1.370	0.046	0.054
D	9.830	10.330	0.387	0.407
E	8.500	8.900	0.335	0.350
E1	12.050	12.650	0.474	0.498
e	2.540 TYP		0.100 TYP	
e1	4.900	5.200	0.192	0.205
F	2.540	2.940	0.100	0.116
h	0.100 TYP		0.004 TYP	
L	13.300	13.800	0.523	0.543
L1	3.540	3.940	0.139	0.155
$\Phi$	3.735	3.935	0.147	0.155

# ITO-220AB Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
$\Phi$	3.500 REF.		0.138 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	1.900	2.100	0.075	0.083