

### **LOW VF SCHOTTKY RECTIFIERS**

# REVERSE VOLTAGE 45 Volts FORWARD CURRENT 40 Amperes

#### **FEATURES**

- Guard Ring Die Construction for Transient Protection
- · Low Power Loss, High Effciency
- · High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- · Schottky Barrier Chip

#### **MECHANICAL DATA**

- · Case: TO-220, TO-220F
- · Polarity: As Marked

#### S40U45CT

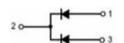
#### **S40U45FCT**





TO-220

T0-220F



- 1, ANODE 2, CATHODE
- 3, ANODE

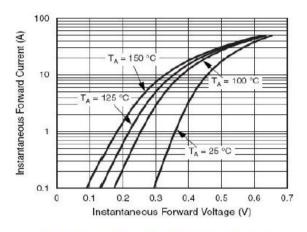
#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

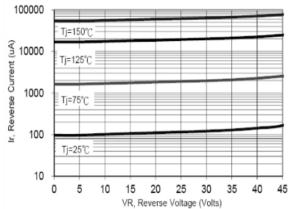
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

Characteristic	Symbol	S40U45CT	S40U45FCT	Unit		
Peak Repetitive Reverse Voltage		$V_{RRM}$	45		V	
Working Peak Reverse Voltage		$V_{RWM}$			V	
DC Blocking Voltage		$V_R$			V	
Maximum Instaneous Forward Voltage $I_F$ =5A $T_C$ =25°C $I_F$ =5A $T_C$ =125°C $I_F$ =20A $T_C$ =25°C $I_F$ =20A $T_C$ =125°C		V <sub>F</sub>	Typ. 0.37 0.28 0.52 0.43		V	
Peak Reverse Current at Rated DC Blocking Voltage	T <sub>C</sub> =25°C T <sub>C</sub> =125°C	I <sub>R</sub>	_	.3 00	mA	
Average Output Rectifie Current (per leg) (total device)		I <sub>F</sub>	20 40		А	
Non-Repetitive Peak Surge Current Surge applied at rated load conditions halfwave,single phase,60H <sub>Z</sub>		I <sub>FSM</sub>	400		А	
Maximum Thermal Resistance	TO-220 TO-220F	$R_{\theta Jc}$		2 4	- °C/W	
	TO-220 TO-220F	$R_{ heta Ja}$		60		
Junction and StorageTemperature Range		T <sub>J,</sub> T <sub>STG</sub>	-65 to	+150	°C	



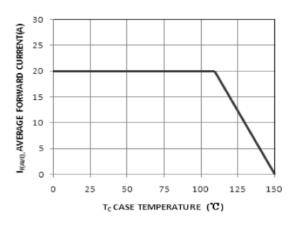
## **Rating and Characteristic Curves**

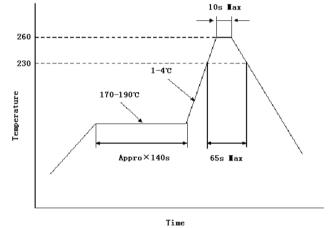




Typical Forward Voltage Per Diode

Typical Reverse Current Per Diode





Average Forward Forward Current vs.

Case Temperature Per Diode

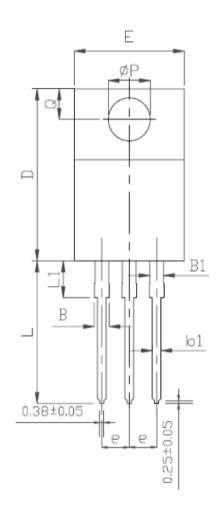
Reflow Soldering Temperature Profile

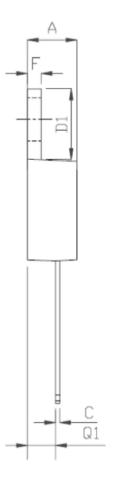


# TO-220 MECHANICAL DATA

J١	ч		m

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4		4. 8	е	2. 44	2. 54	2. 64
В	1. 2		1.4	F	1.1		1. 4
B1	1		1.4	L	12.5		14. 5
b1	0. 75		0. 95	L1	3	3. 5	4
С	0. 4		0. 55	ФР	3. 7	3. 8	3. 9
D	15		16. 5	Q	2. 5		3
D1	5. 9		6. 9	Q1	2		2. 9
E	9.9		10. 7				







# TO-220F MECHANICAL DATA

UNIT: mm

MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
4. 5		4. 9	E1	6. 5	7	7. 5
2. 3		2. 9	е	2. 44	2. 54	2. 64
0. 65		0. 9	L	12. 5		14. 3
1.1		1. 7	L1	9. 45		10. 05
1. 2		1. 4	L2	15		16
0. 35		0. 65	L3	3. 2		4. 4
14. 5		16. 5	ФР	3		3. 3
6. 1		6. 9	Q	2. 5		2. 9
9. 6		10. 3				
	4. 5 2. 3 0. 65 1. 1 1. 2 0. 35 14. 5 6. 1	4. 5 2. 3 0. 65 1. 1 1. 2 0. 35 14. 5 6. 1	4.5     4.9       2.3     2.9       0.65     0.9       1.1     1.7       1.2     1.4       0.35     0.65       14.5     16.5       6.1     6.9	4.5     4.9     E1       2.3     2.9     e       0.65     0.9     L       1.1     1.7     L1       1.2     1.4     L2       0.35     0.65     L3       14.5     16.5     ΦP       6.1     6.9     Q	4.5       4.9       E1       6.5         2.3       2.9       e       2.44         0.65       0.9       L       12.5         1.1       1.7       L1       9.45         1.2       1.4       L2       15         0.35       0.65       L3       3.2         14.5       16.5       ΦP       3         6.1       6.9       Q       2.5	4.5     4.9     E1     6.5     7       2.3     2.9     e     2.44     2.54       0.65     0.9     L     12.5       1.1     1.7     L1     9.45       1.2     1.4     L2     15       0.35     0.65     L3     3.2       14.5     16.5     ΦP     3       6.1     6.9     Q     2.5

