

T1045CT & T1045FCT

10A/45V Low VF Schottky Barrier Rectifier

FEATURES

- ✧ High current capability, low forward voltage
- ✧ Excellent high temperature stability
- ✧ Low power loss, and high efficiency
- ✧ High forward surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ✧ RoHS compliant

ORDERING INFORMATION

- ✧ Device:
T1045CT
T1045FCT
- ✧ Package: TO-220/TO-220F
- ✧ Marking: As marked
- ✧ Material: RoHS compliant
- ✧ Packing: Plastic tube
- ✧ Quantity per tube: 50pcs

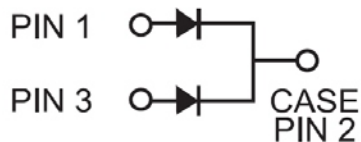
MACHANICAL DATA

- ✧ Case: TO-220/TO-220F molded plastic package
- ✧ Terminal: Matte tin plated, solderable per MIL-STD-750, Method 2026
- ✧ Molding Compound Flammability Rating: UL94-0
- ✧ High temperature soldering guaranteed:
260°C/10second
- ✧ Polarity: As marked
- ✧ Mounting position: Any

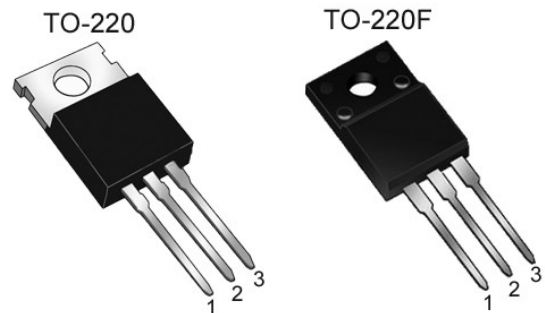
APPLICATIONS

- ✧ Switching mode power supply applications
- ✧ Portable equipment battery applications
- ✧ High frequency rectification
- ✧ DC/DC converter

PIN CONFIGURATION



PACKAGE OUTLINE



ABSOLUTE MAXIMUM RATING (Tamb=25°C, unless otherwise specified)

Symbol	Parameter	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	45	V
$I_{F(AV)}$	Average Forward Current Total device Per Leg	10 5	A
I_{FSM}	Peak Forward Surge Current, 8.3ms single half sine-wave Per Leg	120	A
T_J & T_{STG}	Junction and Storage Temperature	-50~+150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C, unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_F	Forward Voltage	$I_F = 3A$ Ta=25°C		0.38	0.43	V
		$I_F = 5A$ Ta=25°C		0.43	0.48	V
		$I_F = 10A$ Ta=25°C		0.52	0.57	V
		$I_F = 3A$ Ta=125°C		0.31		V
		$I_F = 5A$ Ta=125°C		0.38		V
		$I_F = 10A$ Ta=125°C		0.52		V
V_R	Reverse Breakdown Voltage	$I_R = 0.5mA$	45			V
I_R	Reverse Leakage Current	$V_R = 45V$ Ta=25°C			120	μA
		$V_R = 45V$ Ta=125°C		18		mA
C_J	Junction Capacitance per Leg	f=1MHz, $V_R=4V$		330		pF

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 Typical Forward Current Derating Curve

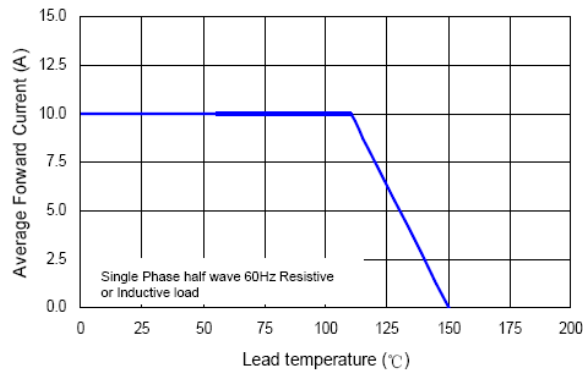


Fig 2 Typical Instantaneous Forward Characteristics

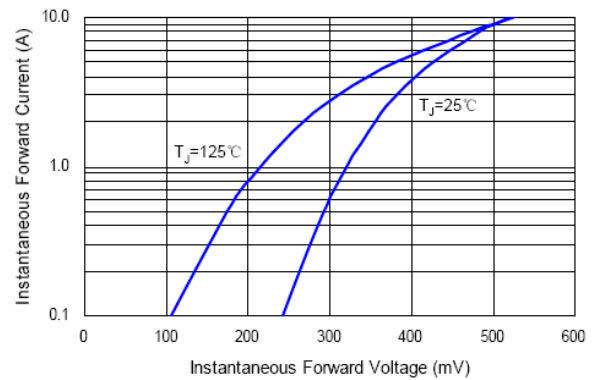


Fig 3 Max. Non-repetitive Forward Surge Current

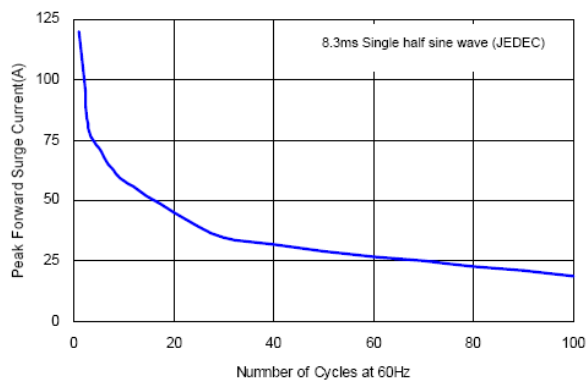


Fig 4 Typical Reverse Characteristics

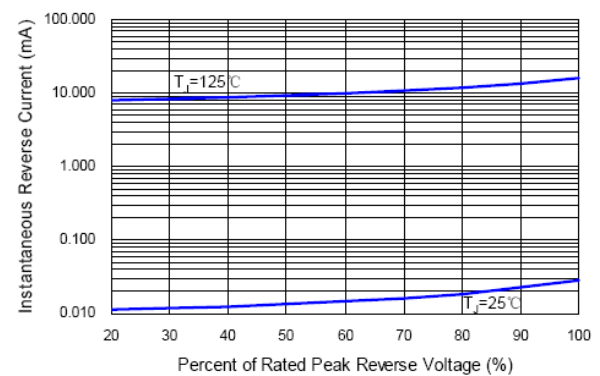
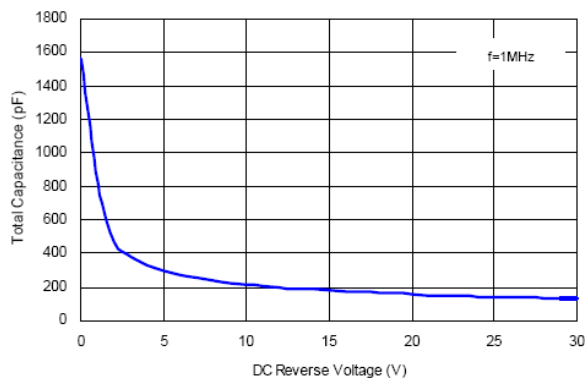
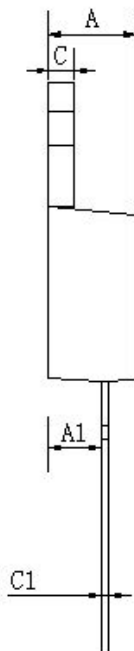
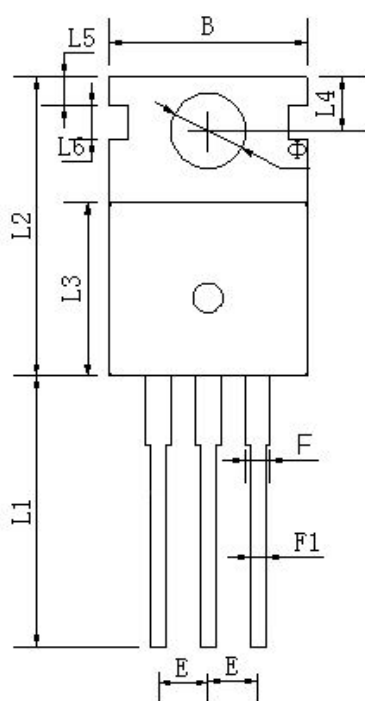


Fig 5 Total Capacitance vs. Reverse Voltage

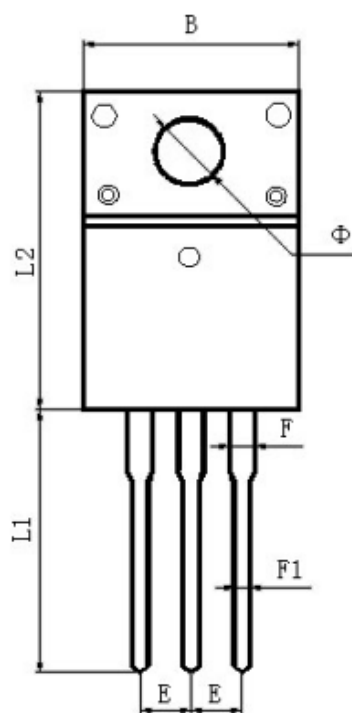


TO-220 PACKAGE OUTLINE DIMENSIONS



DIM	MIN	NOM	MAX
A	4.25	4.45	4.65
A1	2.47	2.67	2.87
B	9.86	10.16	10.46
C	1.22	1.27	1.37
C1	0.33	0.38	0.48
E	2.44	2.54	2.64
F	1.07	1.27	1.47
F1	0.7	0.8	0.9
L1	12.5	13.5	14.5
L2	14.94	15.24	15.54
L3	8.55	8.85	9.15
L4	2.54	2.74	2.94
L5	1.07	1.27	1.47
L6	1.45	1.65	1.85
Φ	3.64	3.84	4.04
Unit mm			

TO-220F PACKAGE OUTLINE DIMENSIONS



DIM	MIN	NOM	MAX
A	4.50	4.70	4.90
A1	2.56	2.76	2.96
B	9.86	10.16	10.46
C	2.34	2.54	2.74
C1	0.45	0.50	0.60
E	2.34	2.54	2.74
F	1.08	1.28	1.48
F1	0.7	0.8	0.9
L1	11.98	12.98	13.98
L2	15.57	15.87	16.17
L3	6.48	6.68	6.88
Φ	2.98	3.18	3.38
Unit mm			