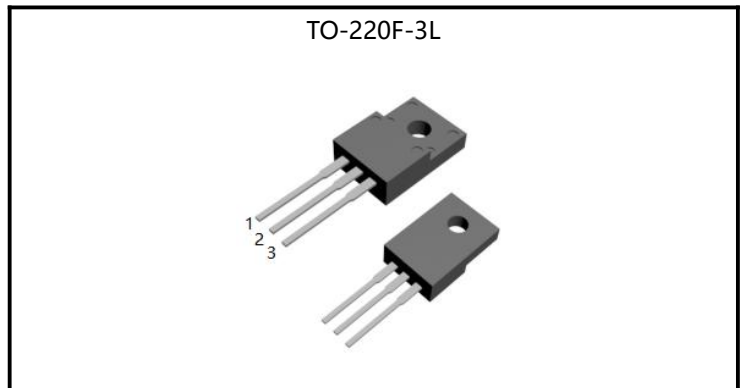


Ultrafast Recovery Diode

10A,200V

FEATURE

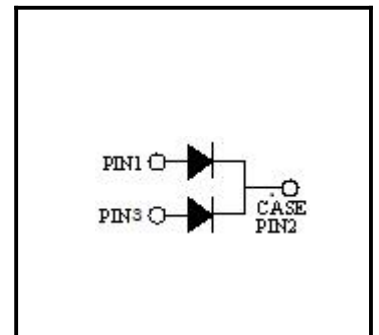
- ◆ Ultrafast,soft recovery
- ◆ High frequency operation
- ◆ Very low IR value
- ◆ Low forward voltage drop
- ◆ High junction temperature
- ◆ Epitaxial chip construction
- ◆ Low power loss, high efficiency
- ◆ RoHS 2.0 Compliant



MECHANICAL DATA

- ◆ Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
- ◆ Mounting position: any

Parameter	Values	Unit
$I_{F(AV)}$	10	A
V_{RRM}	200	V
T_J	150	°C
$V_F(max)$	0.97	V
$T_{RR}(max)$	35	ns



Ordering Code	Marking	Package	Packaging
SF1004FCT	SF1004FCT	TO-220F-3L	Tube

Absolute Maximum Ratings($T_C=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Values			Unit	Note/Test Conditions
		Min	Typ	Max		
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	-	-	200	V	-
Maximum RMS Voltage	V_{RMS}	-	-	140	V	-
Maximum DC blocking Voltage	V_{DC}	-	-	200	V	-
Maximum Average Forward Rectified Current	$I_{F(AV)}$	-	-	5 10	A	Per Leg Total device, $T_C=100^{\circ}\text{C}$
Non-Repetitive Forward Surge Current	Per Leg I_{FSM}	-	-	75	A	$T_C=25^{\circ}\text{C}$, $t_p=8.3\text{ms}$, Half Sine Wave
Typical Junction Capacitance	C_J	-	45	-	pF	Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55	-	150	$^{\circ}\text{C}$	-

Thermal Characteristics

Parameter	Symbol	Values			Unit	Note/Test Conditions
		Min	Typ	Max		
Thermal resistance , Channel to Case	$R_{th(ch-c)}$	-	-	3.5	$^{\circ}\text{C}/\text{W}$	-

Electrical Characteristics-(per leg)($T_C=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Values			Unit	Note/Test Conditions
		Min	Typ	Max		
Reverse Breakdown Voltage	V_{RRM}	200	-	-	V	$I_R=100\mu\text{A}$
Forward Voltage Drop	V_F	-	0.89	0.97	V	$I_F=5\text{A}, T_J=25^{\circ}\text{C}$
		-	0.78	0.87		$I_F=5\text{A}, T_J=125^{\circ}\text{C}$
Reverse Leakage Current	I_R	-	0.3	10	μA	$V_R=200\text{V}, T_J=25^{\circ}\text{C}$
		-	1.8	200		$V_R=200\text{V}, T_J=125^{\circ}\text{C}$
Reverse Recovery Time	t_{rr}	-	-	35	ns	$I_F=0.5\text{A}, I_R=1\text{A}, I_{RR}=0.25\text{A}, T_J=25^{\circ}\text{C}$



RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

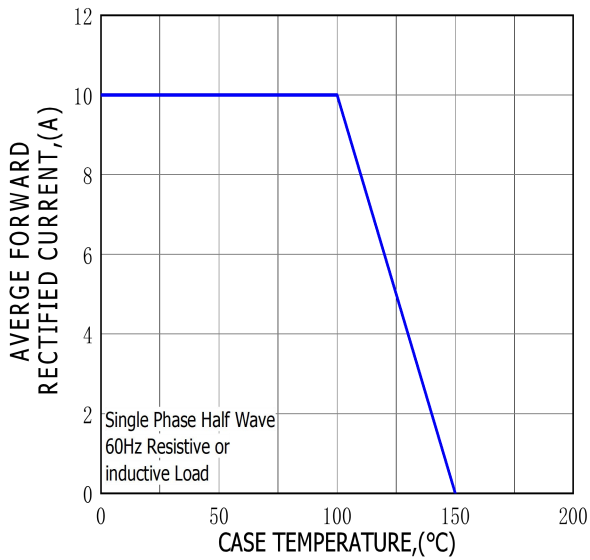


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

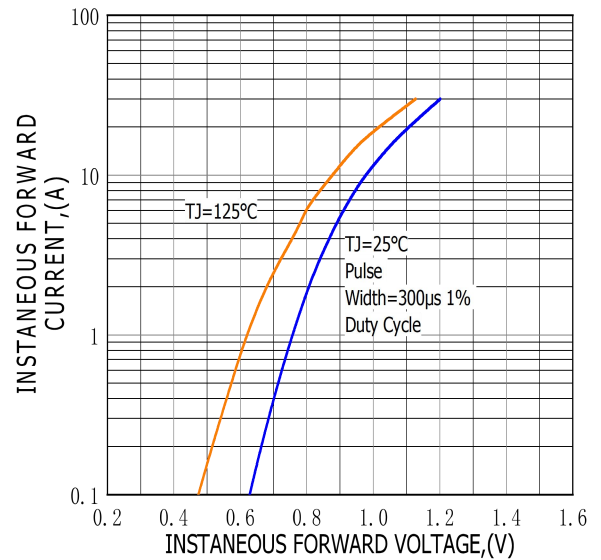


FIG.3-MAXIMUN NON-REPETITIVE FORWARD SURGE CURRENT

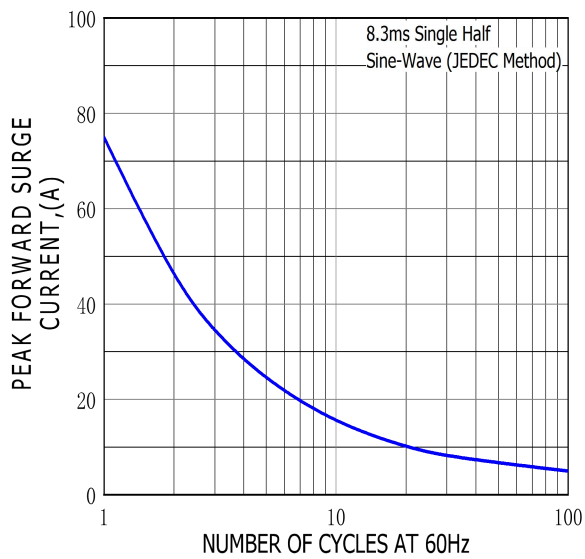
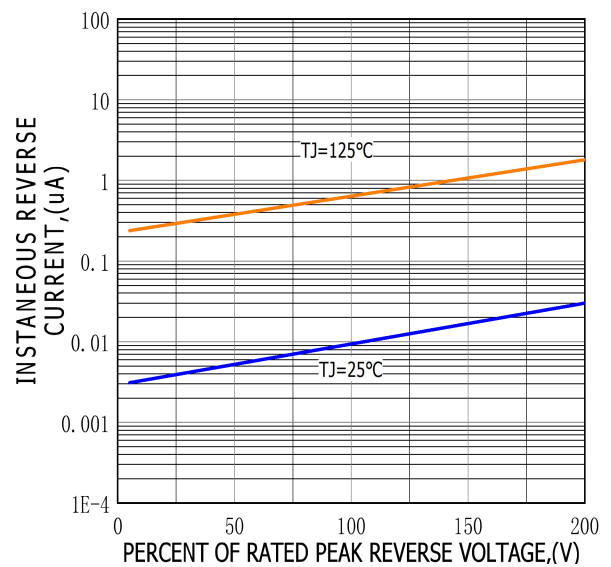
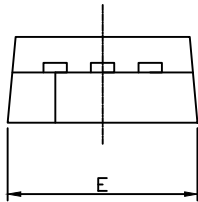
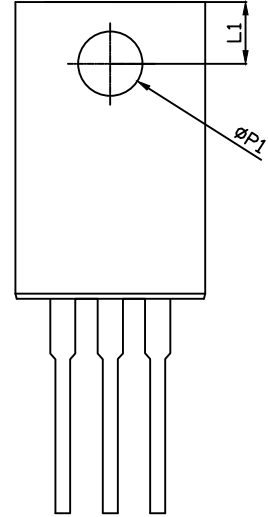
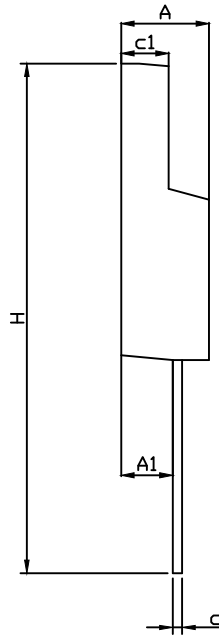
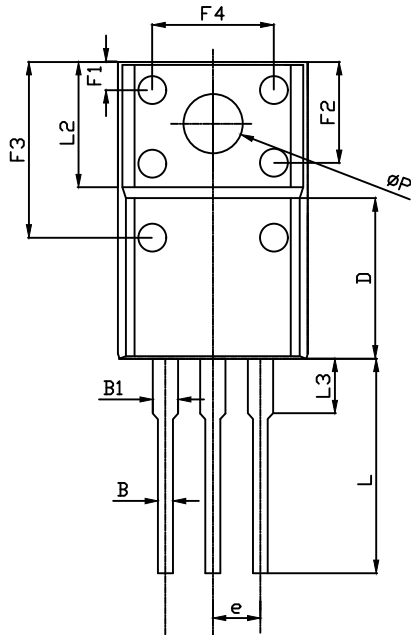


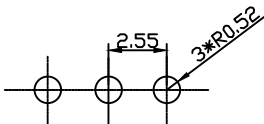
FIG.4-TYPICAL REVERSE CHARACTERISTICS



TO-220F-3L PACKAGE OUTLINE



RECOMMENDED LAND PATTERN



UNIT: mm

	MIN	NOM	MAX
A	4.40	4.60	4.80
A1	2.63	2.76	2.89
B	0.75	0.80	0.90
B1	1.12	1.27	1.42
c	0.40	0.50	0.60
c1	2.60	2.70	2.80
D	7.50	7.80	8.10
e	-	2.55REF	-
E	9.86	10.00	10.10
F1	1.90	2.12	2.40
F2	5.00	5.30	5.65
F3	8.70	9.00	9.30
F4	6.20	6.50	6.80
H	27.80	28.30	28.80
L	13.10	13.30	13.50
L1	2.85	3.00	3.15
L2	-	6.70REF	-
L3	3.10	3.60	4.10
ΦP	3.00	3.30	3.60
ΦP1	2.80	3.10	3.40