

## PESC0865MF

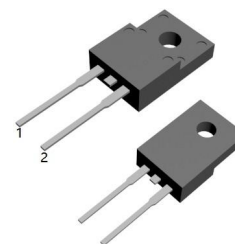
### 8.0AMPS.SIC SCHOTTKY BARRIER DIODE

**FEATURE**

- . 650V Schottky Diode
- . Zero Reverse Recovery/Zero Forward Recovery
- . High Efficiency Operation
- . Extremely Fast Switching
- . Temperature Independent Switching Behavior

**TYPICAL APPLICATIONS**

- . Switch mode power supply
- . Power factor correction Solar Invertor
- . Solar inverter
- . Uninterruptible power supply



TO-220MF-2L


**MAXIMUM RATINGS** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	PESC0865MF	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	650	V
Maximum RMS Voltage	$V_{RMS}$	455	V
Maximum DC blocking Voltage	$V_{DC}$	650	V
Maximum Average Forward Rectified Current at $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	8	A
Non-Repetitive Peak Forward Surge Current $T_c=25^\circ\text{C}, t_p=8.3 \text{ ms}$ , Half Sine Pulse	$I_{FSM}$	68	A
Total power dissipation $T_c=25^\circ\text{C}$	$P_D$	58.6	W
Operation Junction Temperature and Storage Temperature	$T_J, T_{STG}$	-55 to +175	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Typ	Max	Units	
Forward voltage	$V_F$	$I_F=8\text{A}, T_j=25^\circ\text{C}$	1.27	1.5	V
		$I_F=8\text{A}, T_j=175^\circ\text{C}$	1.38	1.6	
Reverse current	$I_R$	$V_R=650\text{V}, T_j=25^\circ\text{C}$	5	50	$\mu\text{A}$
		$V_R=650\text{V}, T_j=175^\circ\text{C}$	25	200	
Total capacitive charge	$Q_c$	22	---	nC	
Total capacitance	$C$	$V_R=0\text{V}, T_j=25^\circ\text{C}, f=1\text{MHZ}$	510	---	pF
		$V_R=200\text{V}, T_j=25^\circ\text{C}, f=1\text{MHZ}$	52	---	
		$V_R=400\text{V}, T_j=25^\circ\text{C}, f=1\text{MHZ}$	38	---	

**THERMAL CHARACTERISTICS** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Typ	Max	Units
Typical Thermal Resistance Junction to Case	$R_{(JC)}$	2.559	----	$^\circ\text{C}/\text{W}$

**RATING AND CHARACTERISTIC CURVES**

FIG.1-FORWARD CHARACTERISTICS

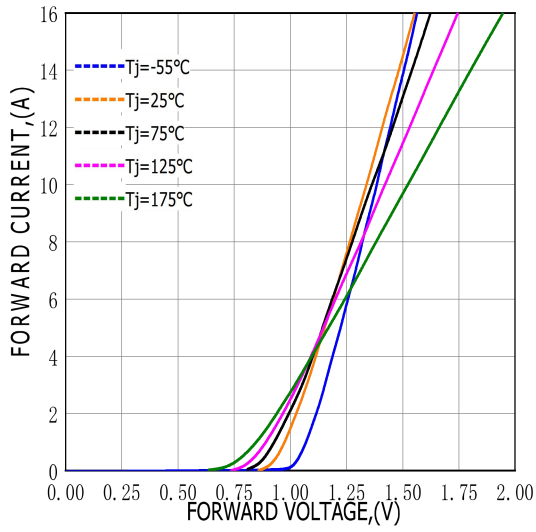


FIG.2-REVERSE CHARACTERISTICS

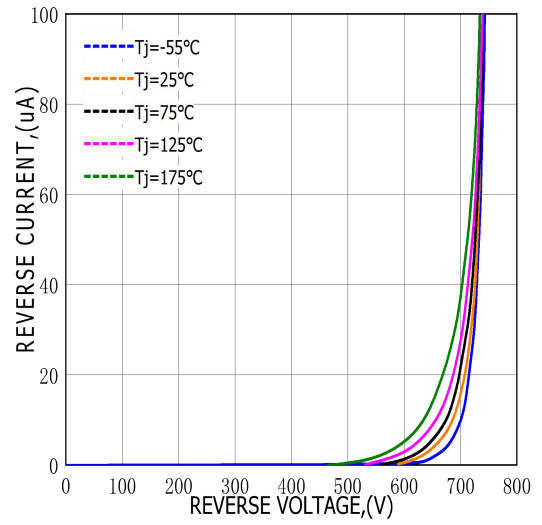


FIG.3-TOTAL CAPACITANCE CHARGE VS REVERSE VOLTAGE

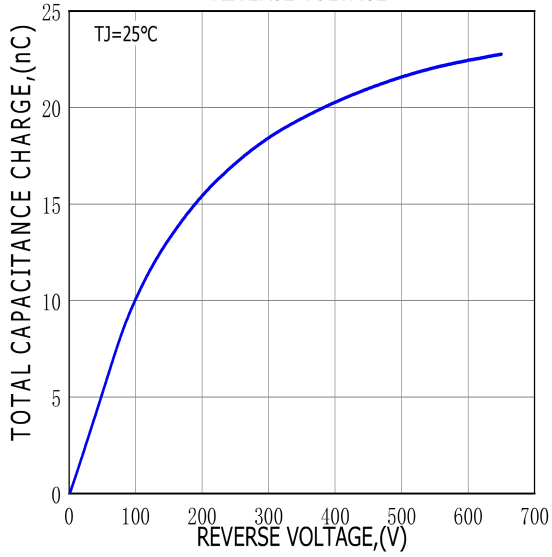
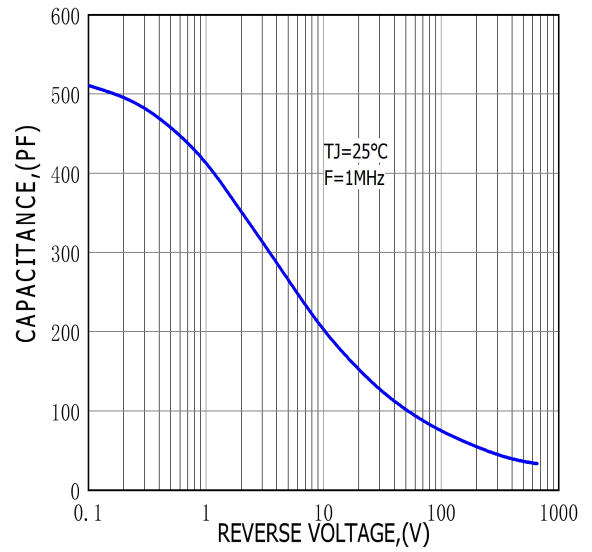
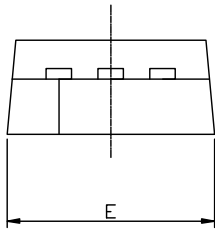
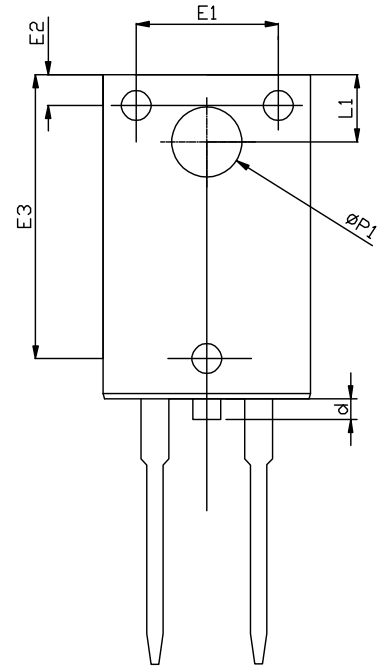
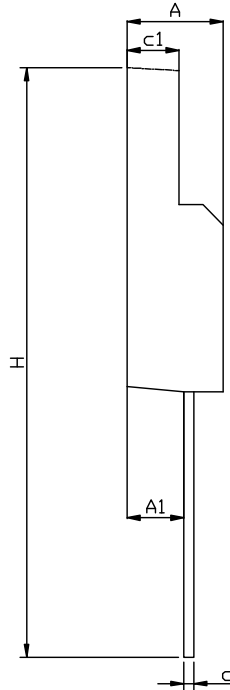
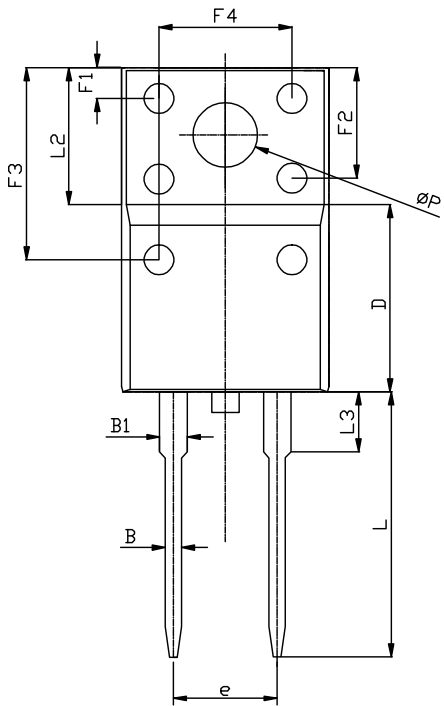


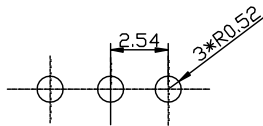
FIG.4-CAPACITANCE VS REVERSE VOLTAGE



# TO-220MF-2L PACKAGE OUTLINE



RECOMMENDED LAND PATTERN



UNIT: mm

	MIN	NOM	MAX
A	4.50	4.70	4.90
A1	2.63	2.76	2.89
B	0.75	0.80	0.90
B1	1.15	1.35	1.55
c	0.40	0.50	0.60
c1	2.34	2.54	2.74
d			0.80
D	8.87	9.17	9.47
e	-	5.08REF	-
E	9.86	10.16	10.46
E1	6.86	6.96	7.06
E2	1.40	1.50	1.60
E3	13.80	13.90	14.00
F1	1.40	1.50	1.60
F2	5.15	5.40	5.65
F3	9.10	9.40	9.70
F4	6.70	7.00	7.30
H	28.50	29.00	29.50
L	12.58	12.98	13.38
L1	3.15	3.30	3.45
L2	-	6.70REF	-
L3	2.63	2.93	3.23
$\Phi P$	2.90	3.18	3.48
$\Phi P1$	3.15	3.45	3.75