

PESC0665

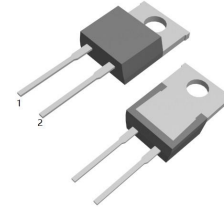
6.0AMPS.SIC SCHOTTKY BARRIER DIODE

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-220AD-2L



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

Parameter	Symbol	PESC0665	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 $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	6	A
Non-Repetitive Peak Forward Surge Current $T_c=25^\circ\text{C}, t_p=8.3 \text{ ms}, \text{ Half Sine Pulse}$	I_{FSM}	52	A
Total power dissipation $T_c=25^\circ\text{C}$	P_D	93	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	$I_F=6\text{A}, T_j=25^\circ\text{C}$	1.27	1.5	V
		$I_F=6\text{A}, T_j=175^\circ\text{C}$	1.38	1.6	
Reverse current	I_R	$V_R=650\text{V}, T_j=25^\circ\text{C}$	4	50	μA
		$V_R=650\text{V}, T_j=175^\circ\text{C}$	20	200	
Total capacitive charge	Q_c	17	---	nC	
Total capacitance	C	$V_R=0\text{V}, T_j=25^\circ\text{C}, f=1\text{MHZ}$	230	---	pF
		$V_R=200\text{V}, T_j=25^\circ\text{C}, f=1\text{MHZ}$	39	---	
		$V_R=400\text{V}, T_j=25^\circ\text{C}, f=1\text{MHZ}$	28	---	

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

Parameter	Symbol	Typ	Max	Units
Typical Thermal Resistance Junction to Case	$R_{(JC)}$	1.6	----	$^\circ\text{C/W}$

RATING AND CHARACTERISTIC CURVES

FIG.1-FORWARD CHARACTERISTICS

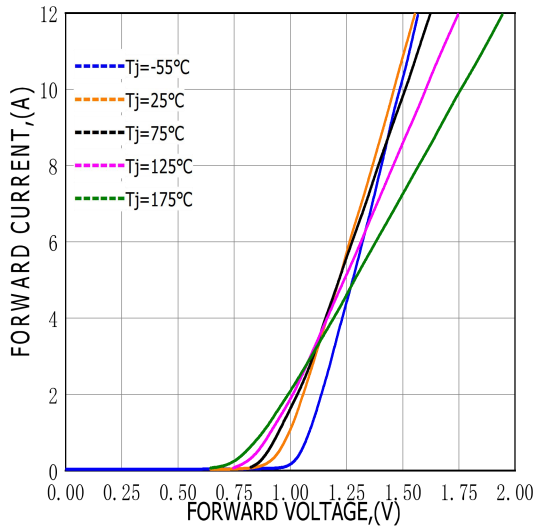


FIG.2-REVERSE CHARACTERISTICS

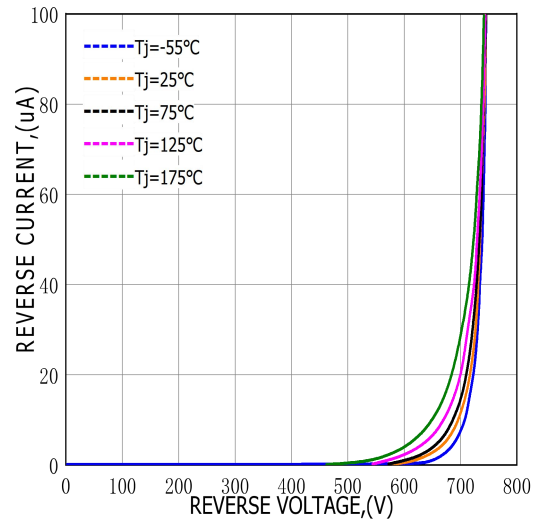


FIG.3-TOTAL CAPACITANCE CHARGE VS REVERSE VOLTAGE

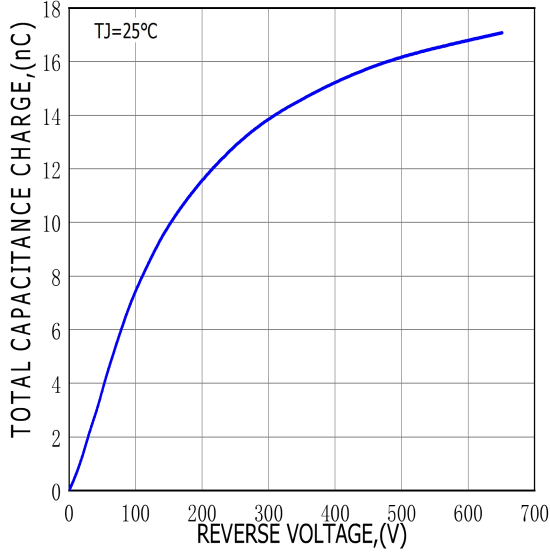
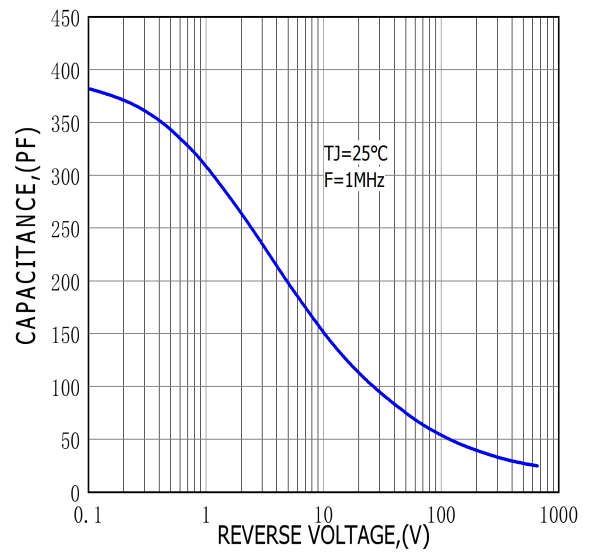
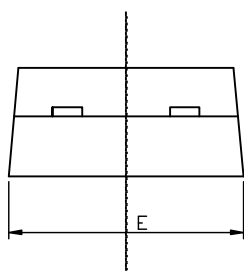
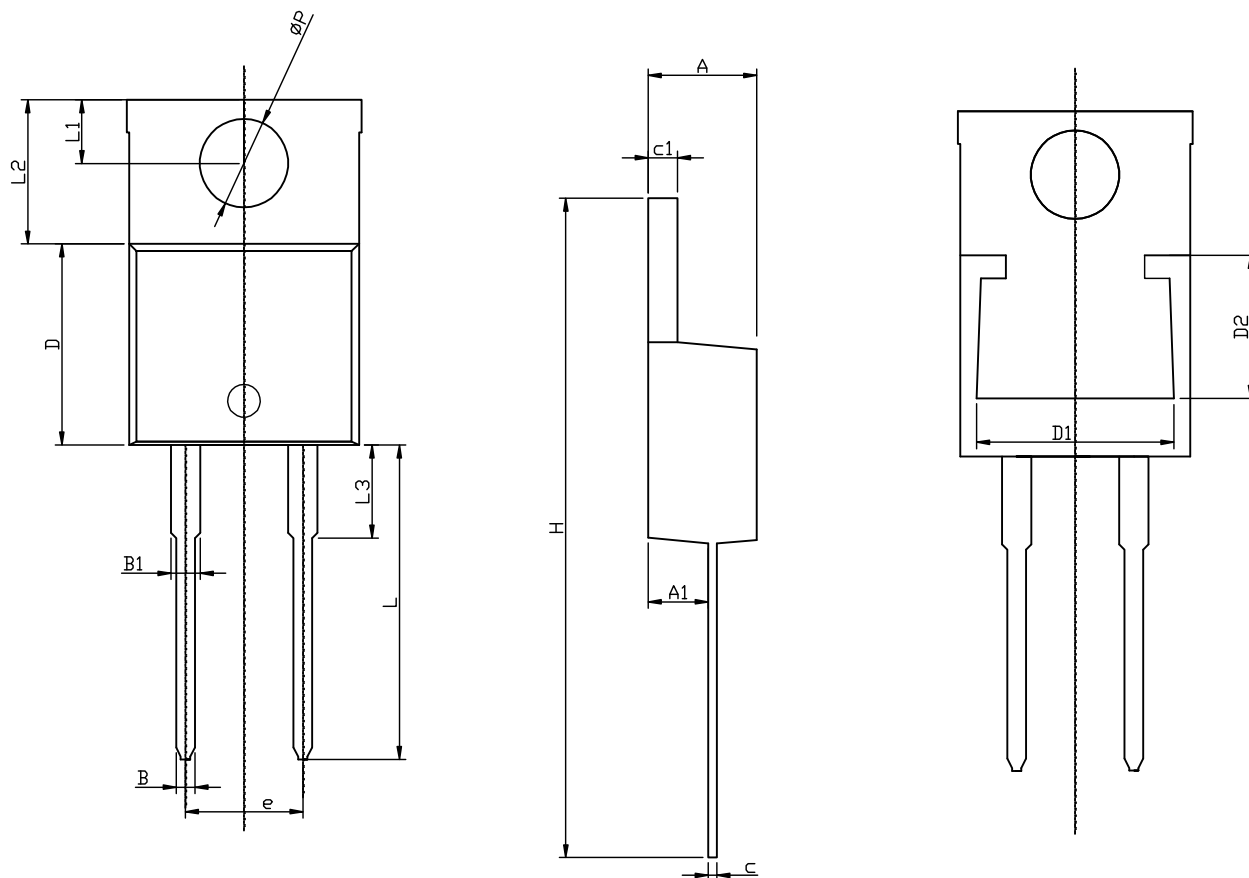


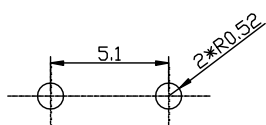
FIG.4-CAPACITANCE VS REVERSE VOLTAGE



TO-220AD-2L PACKAGE OUTLINE



RECOMMENDED LAND PATTERN



UNIT: mm

	MIN	NOM	MAX
A	4.50	4.70	4.90
A1	2.45	2.60	2.70
B	0.72	0.82	0.92
B1	1.12	1.27	1.42
c	0.28	0.38	0.48
c1	1.17	1.27	1.37
D	8.46	8.66	8.86
D1	7.70	7.90	8.40
D2	5.00	5.20	5.40
e		5.10	
E	9.85	10.15	10.45
H	28.00	28.50	29.00
ΦP		3.84	
L	13.1	13.6	14.1
L1	2.54	2.74	2.94
L2	6.04	6.24	6.44
L3	3.85	4.05	4.35