SZCJ

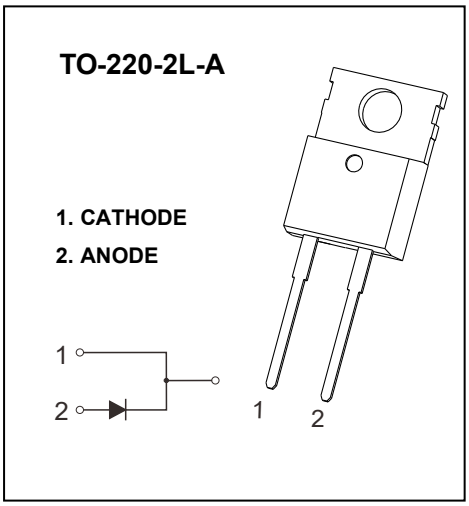
Shenzhen Changji Semiconductor Co., LTD.

TO-220-2L-A Plastic-Encapsulate Diode

CSD10H65J1 Silicon Carbide Schottky Diode

MAIN CHARACTERISTICS

I_O	10A(T_C≤147℃)
V_{RRM}	650V
T_j	175℃
$V_{F(typ)}$	1.3V (@T_j=25℃) 1.6V (@T_j=175℃)



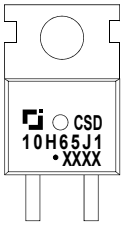
FEATURES

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Temperature-independent performance
- High-speed switching
- Low switching loss
- Low Leakage Current

Application

- Industrial Power Supplies
- Power factor correction
- Motor drive traction
- EV charging station
- Solar Inverters

MARKING



CSD10H65J1 = Device code
Solid dot = Green molding compound device
if none, the normal device
XXXX = Code

MAXIMUM RATINGS (T_j=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{RRM}	Peak repetitive reverse voltage		650	V
V_{RWM}	Working peak reverse voltage			
V_R	DC blocking voltage			
$I_{F(AV)}$	Average Forward Current	T_C≤25℃	29	A
		T_C≤100℃	19	A
		T_C≤147℃	10	A
I_{FSM}	Non-Repetitive peak forward surge current (10ms half sine wave)		220	A
$\int i^2dt$	i^2t value (t_P=10ms)		242	A^2s
P_D	Power dissipation		88	W
$R_{\theta JC}$	Thermal Resistance From Junction to Case		1.7	℃/W
T_j	Junction temperature		-55~175	℃
T_{stg}	Storage temperature		-55~175	℃

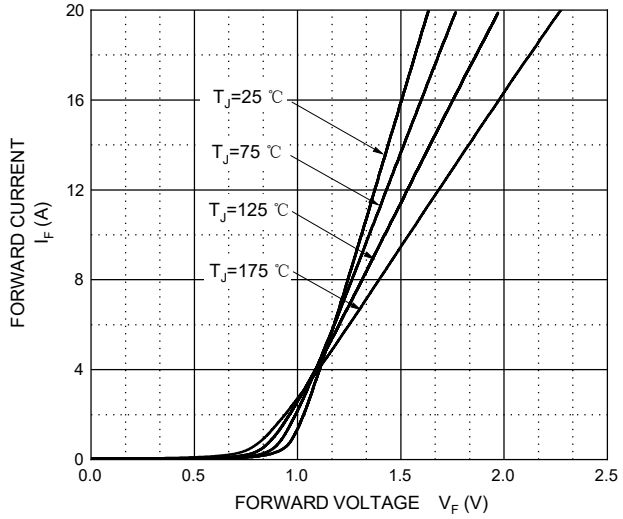
Typical Characteristics

ELECTRICAL CHARACTERISTICS(T_j=25℃ unless otherwise specified)

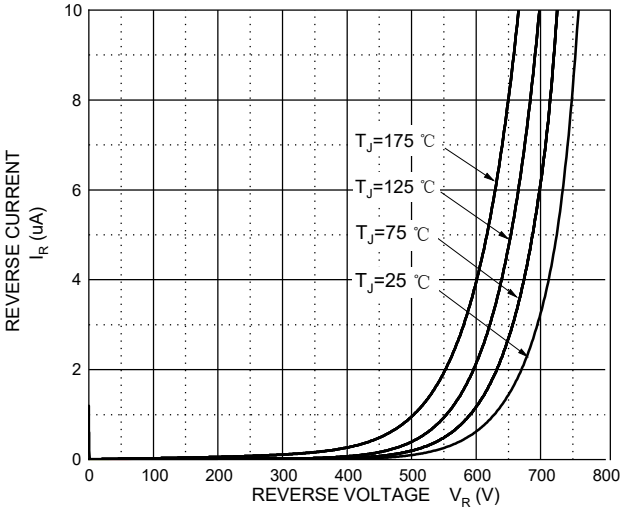
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=100μA		650			V
Reverse current	I_R	V_R=650V	T_j=25℃		1.4	50	μA
			T_j=175℃		8	500	μA
Forward voltage	V_F	I_F=10A	T_j=25℃		1.3	1.65	V
			T_j=175℃		1.6		V
Total capacitance	C	V_R=0V,f=1MHz			550		pF
		V_R=200V,f=1MHz			62		pF
		V_R=400V,f=1MHz			45		pF
Total capacitive charge	Q_C	V_R=400V $Q_C=\int_0^{VR} C(V)dV$			34		nC
Capacitance Stored Energy	E_C	V_R=400V $E_C=\int_0^{VR} C(V)\cdot VdV$			5		μJ

Typical Characteristics

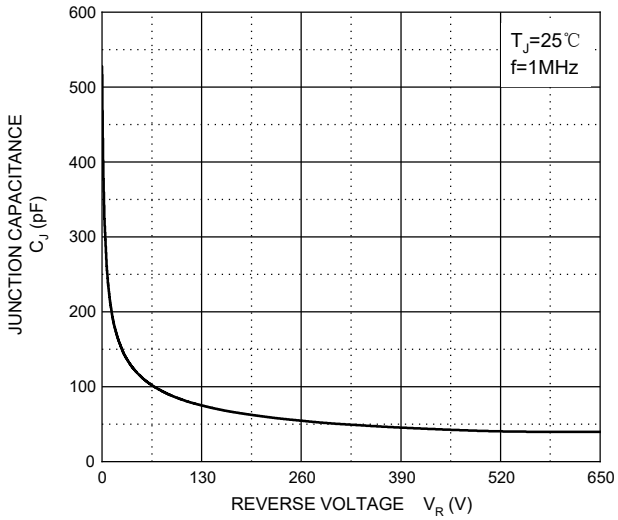
Forward Characteristics



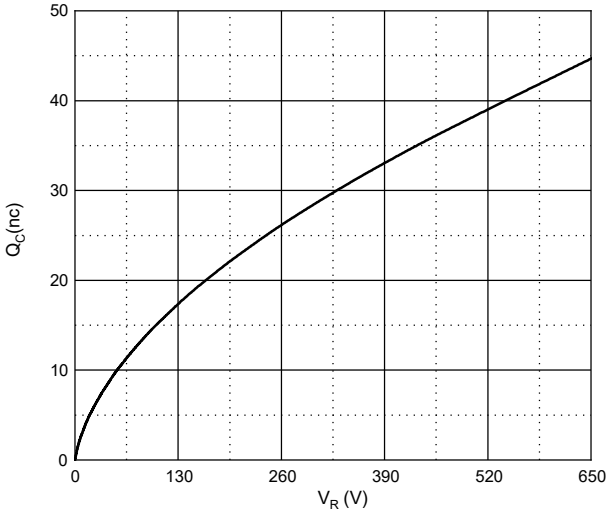
Reverse Characteristics



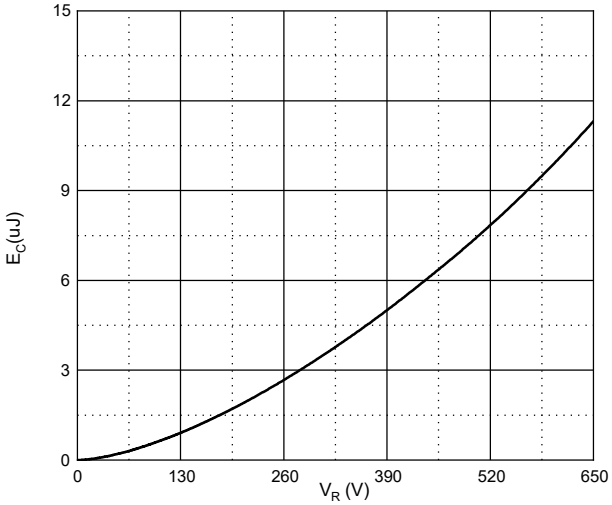
Capacitance Characteristics



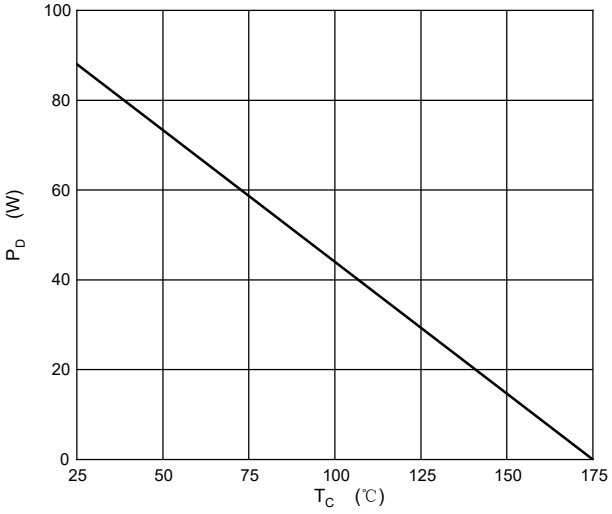
Total Capacitive Charge vs. Reverse Voltage



Capacitance Stored Energy

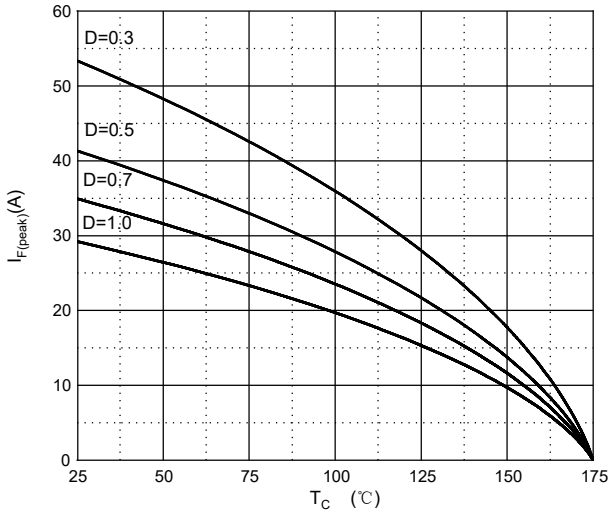


Power Derating Curve

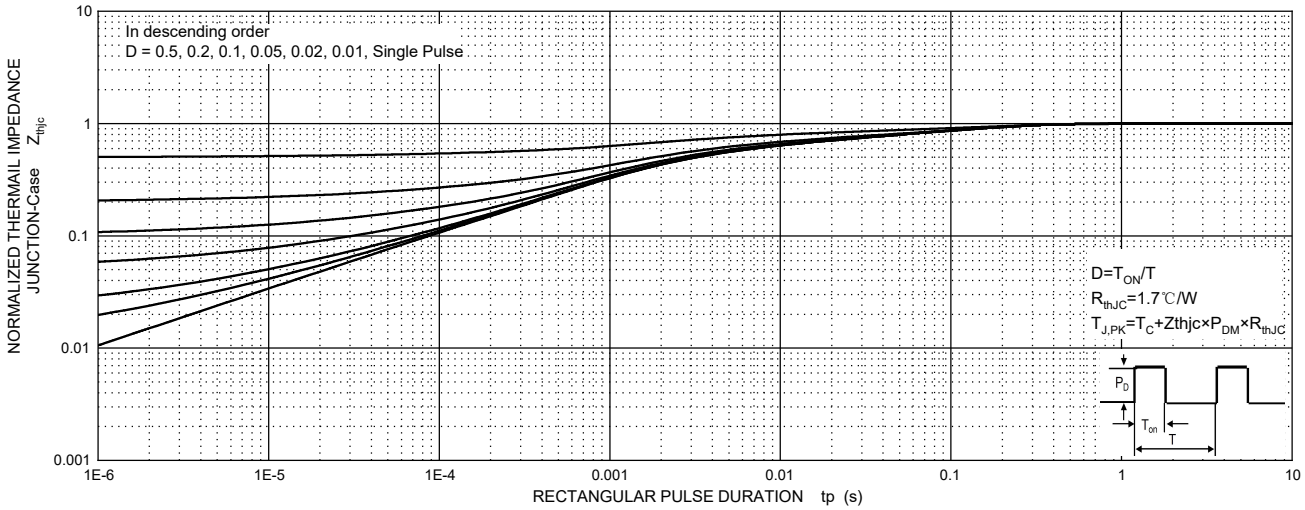


Typical Characteristics

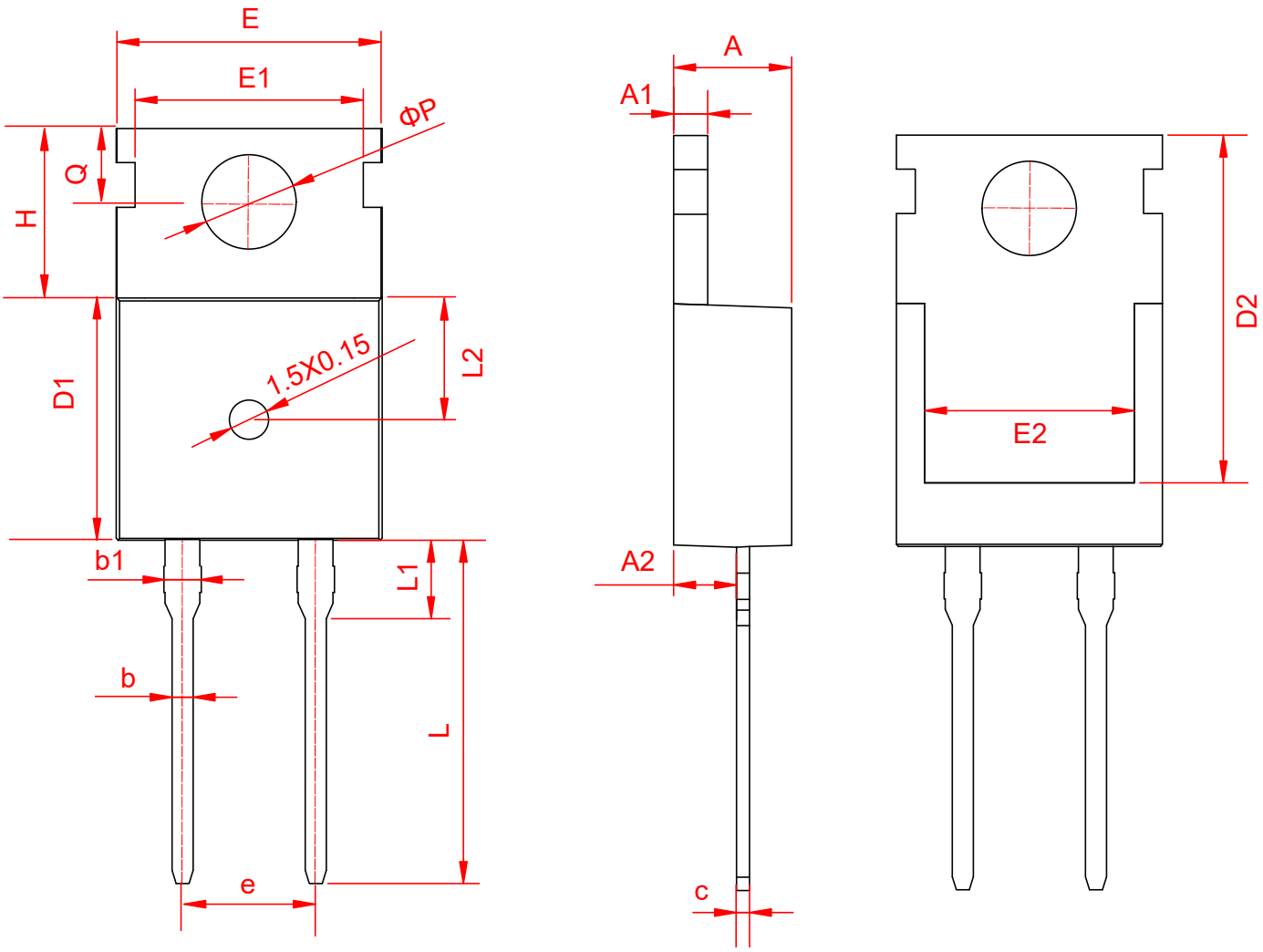
Current Derating



CSD10H65J1 Transient Thermal Impedance, Junction-Case



TO-220-2L-A Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	4.40	4.60	0.173	0.181
A1	1.25	1.35	0.049	0.053
A2	2.30	2.50	0.091	0.098
b	0.70	0.90	0.028	0.035
b1	1.25	1.42	0.049	0.056
c	0.45	0.55	0.018	0.022
D1	9.10	9.30	0.358	0.366
D2	13.07	13.47	0.515	0.530
E	9.80	10.15	0.386	0.400
E1	8.55	8.85	0.337	0.348
E2	7.80	8.20	0.307	0.323
e	5.08 BSC.		0.200 BSC.	
H	6.40	6.60	0.252	0.260
L	13.00	13.45	0.512	0.530
L1		3.40		0.134
L2	4.50	4.80	0.177	0.189
ΦP	3.50	3.70	0.138	0.146
Q	2.70	2.90	0.106	0.114