Technical Data
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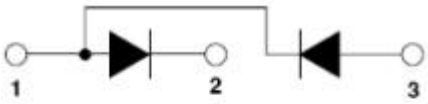
SM165KD800G2 SM165KJ800G2 SM165KE800G2
Standard Recovery Diodes

T2

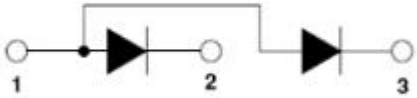
Features

- Heat transfer through aluminum oxide DBC Ceramic isolated metal baseplate
- Industrial standard package
- Thick copper baseplate
- Plastic shell meets UL 94 V-0 flammability rating
- UL approved file E517293
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



SM165KD800G2



SM165KJ800G2

SM165KE800G2

Applications

- Power Supplies
- AC&DC Motor Drivers
- Bridge Circuits
- Welders
- Battery Supplier

Maximum Ratings:

Characteristics	Symbol	Condition		Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-		800	V
State the average current	$I_{F(AV)}$	Single phase ,half wave 180°conduction Tc=85℃		165	A
Surge forward current	I_{FSM}	t=10mS, No voltage reapplied	Sine half wave, initial T_J = T_J maximum	4000	A
		t=10mS, 100 % VRRM reapplied		3350	
Maximum I^2t for fusing	I^2t	t=10mS, No voltage reapplied	Sine half wave, initial T_J = T_J maximum	80	kA^2s
		t=10mS, 100 % VRRM reapplied		56	

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(per leg)*	V_{F1}	@ 165A, Pulse, T_J = 25 °C	0.98	1.25	V
Reverse Current(per leg)*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.45	20	uA
	I_{R2}	@V_R = rated V_R T_J = 150°C	0.80	5	mA
Isolation Breakdown Voltage(R.M.S)	Visol	Ac.50H_Z; R.M.S;1min	-	2500	V
		Ac.50H_Z; R.M.S; 1sec	-	3500	

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	SM165KD800G2 SM165KJ800G2	SM165KE800G2	Units
Junction Temperature	T_J	-	-40~+150		°C
Storage Temperature	T_{stg}	-	-40~+150		°C
Maximum internal thermal resistance, junction to case per leg	$R_{th(J-C)}$	Per diode	0.21		°C/W
Typical thermal resistance, case to heatsink per module	$R_{th(C-S)}$	Module	0.05		°C/W
Mounting Torque	Mt	To terminals(M6)	5±10%		Nm
	Ms	To heatsink(M6)	5±10%		
Module(Approximately)	Weight		160	150	g

Ratings and Characteristics Curves

Figure1
Typical Forward Characteristics

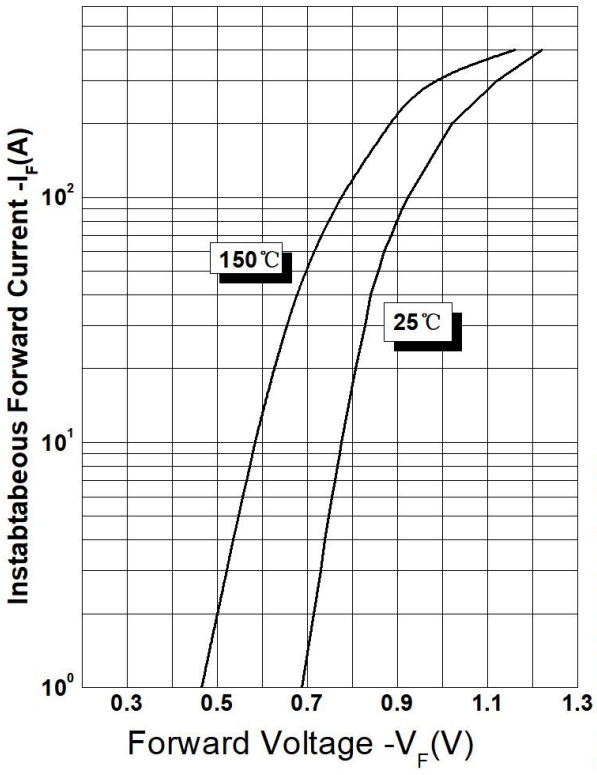


Figure 2
Typical Reverse Characteristics

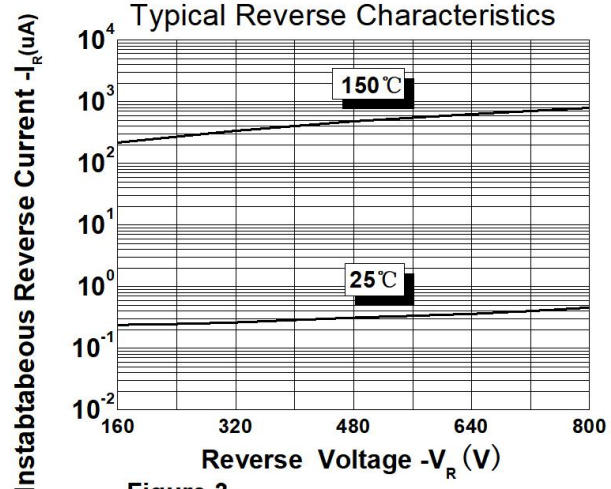
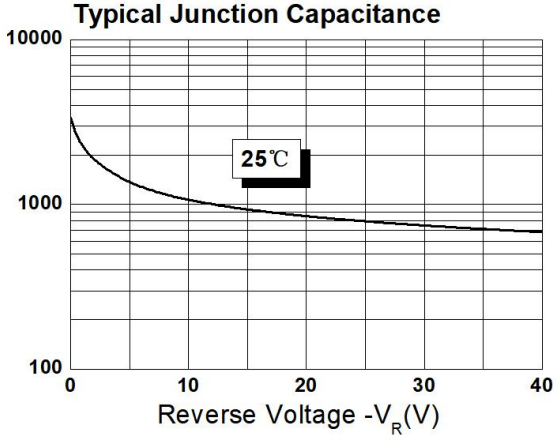


Figure 3
Typical Junction Capacitance



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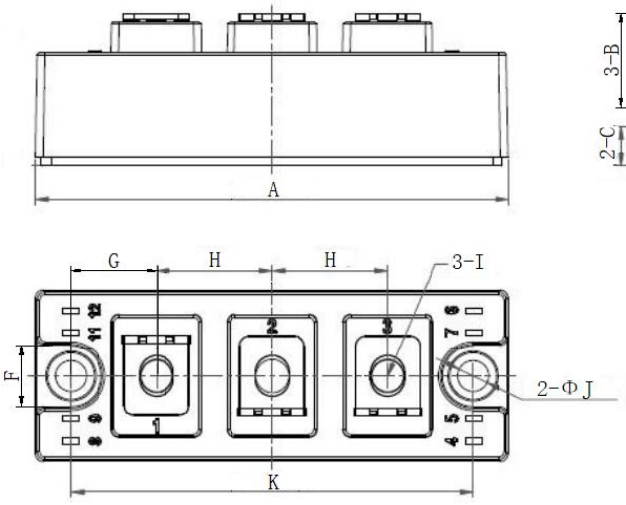
Mechanical Dimensions T2 (Millimeters)



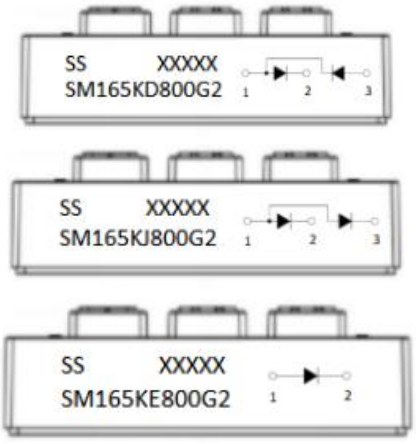
SYMBOL	Millimeters	
	Min.	Max.
A	93.7	94.3
B	7.6	-
C	7.7	8.3
D	33.7	34.3
E	30	31
F	12.2	-
G	16.8	17.2
H	22.8	23.2
I	M6	-
J	6.1	6.5
K	79.8	80.2

Ordering Information

Device	Package	Shipping
SM165KD800G2 SM165KJ800G2 SM165KE800G2	T2	10pcs/ box

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



Where XXXXX is YYWWL

SM165KD800G2 = Part name
SM165KJ800G2 = Part name
SM165KE800G2 = Part name
SS = SS
YY = Year
WW = Week
L = Lot Number

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