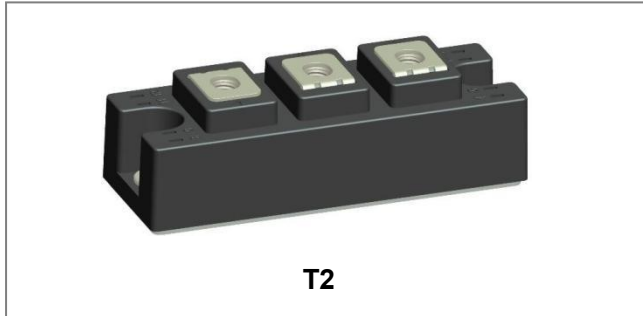


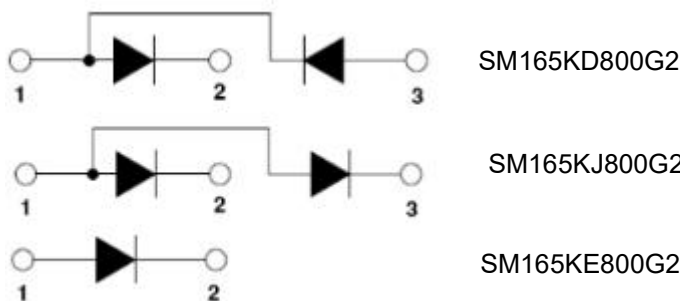
SM165KD800G2 SM165KJ800G2 SM165KE800G2 Standard Recovery Diodes



Features

- Heat transfer through aluminum oxide DBC
Ceramic isolated metal base plate
- Industrial standard package
- Thick copper base plate
- 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



Applications

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

Maximum Ratings@T_J=25°C unless otherwise specified

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 T _c =85°C	165	A
Surge forward current	I _{FSM}	t=10mS, No voltage reapplied	4000	A
		t=10mS, 100 % VRRM reapplied	3350	
Maximum I ² t for fusing	I ² t	t=10mS, No voltage reapplied	80	kA ² s
		t=10mS, 100 % VRRM reapplied	56	

Electrical Characteristics:

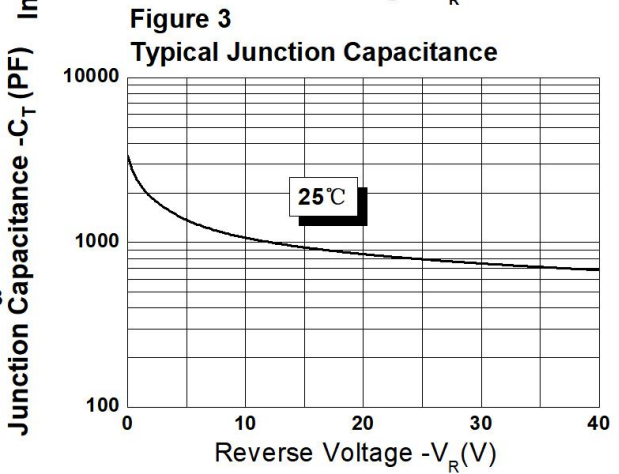
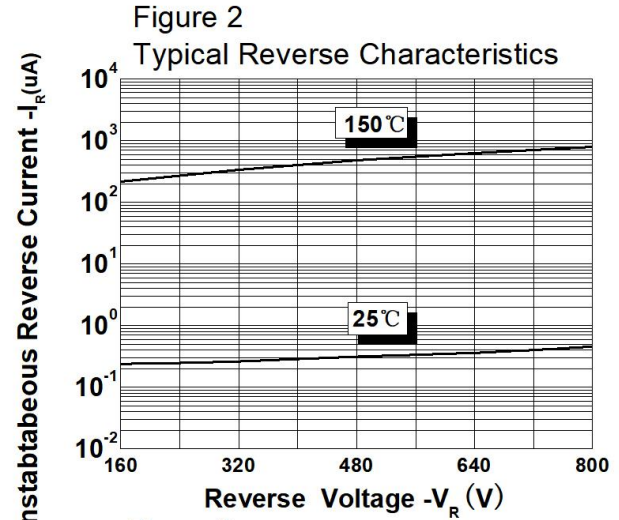
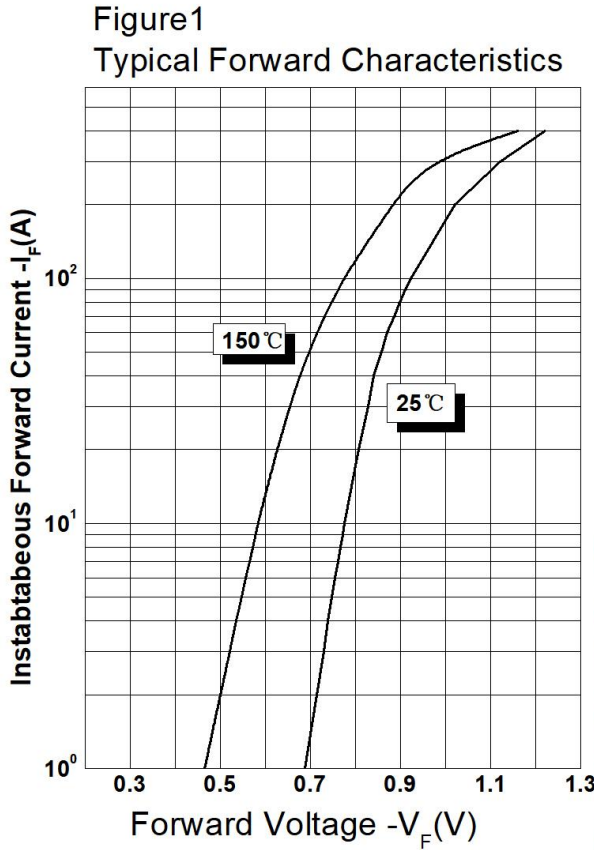
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(per leg)*	V_{F1}	@ 165A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.98	1.25	V
Reverse Current(per leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.45	20	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 150\text{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

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

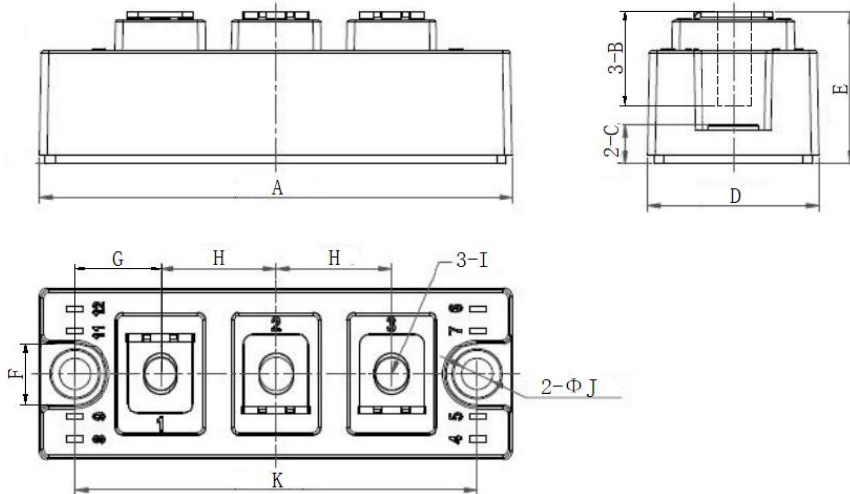
Thermal-Mechanical Specifications:

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

Ratings and Characteristics Curves



Mechanical Dimensions T2 (Millimeters)

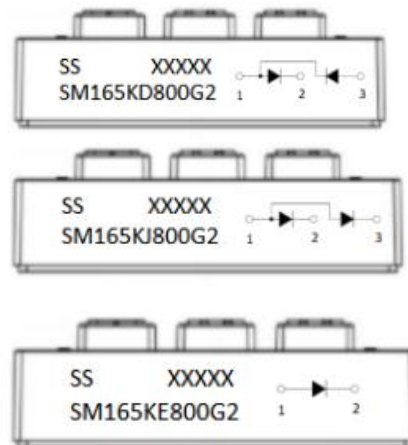


SYMBOL	Millimeters	
	Min.	Max.
A	93.7	94.3
B	7.6	-
C	7.7	8.3
D	33.7	34.3
E	30	31
F	12.2	-
G	16.8	17.2
H	22.8	23.2
I	M6	-
J	6.1	6.5
K	79.8	80.2

Ordering Information

Device	Package	Shipping
SM165KD800G2	T2	10pcs/ box
SM165KJ800G2		
SM165KE800G2		

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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