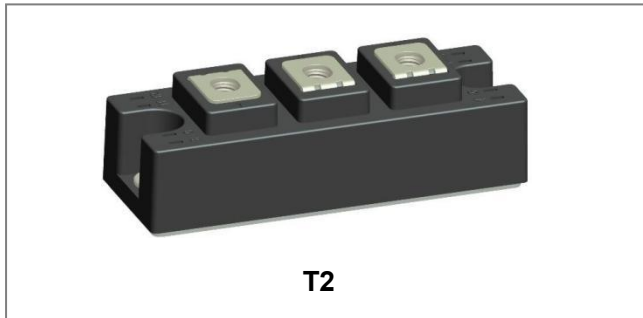


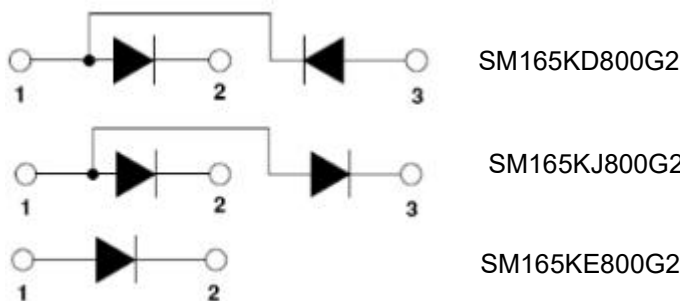
SM165KD800G2 SM165KJ800G2 SM165KE800G2 Standard Recovery Diodes



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



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 $T_c=85^\circ\text{C}$	165	A
Surge forward current	I_{FSM}	t=10mS, No voltage reapplied	4000	A
		t=10mS, 100 % VRRM reapplied	3350	
Maximum I^2t for fusing	I^2t	t=10mS, No voltage reapplied	80	kA ² s
		t=10mS, 100 % VRRM reapplied	56	

Electrical Characteristics:

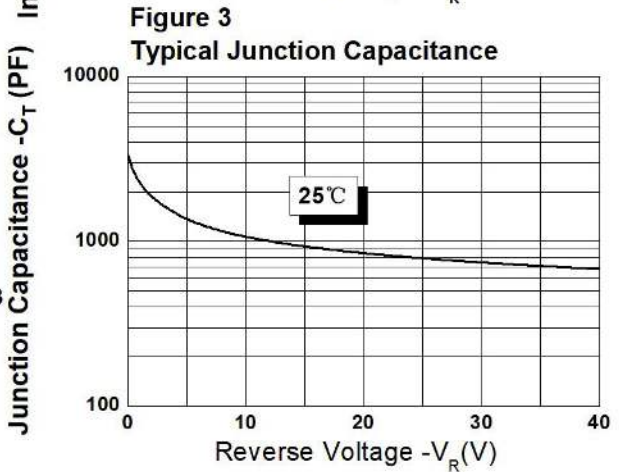
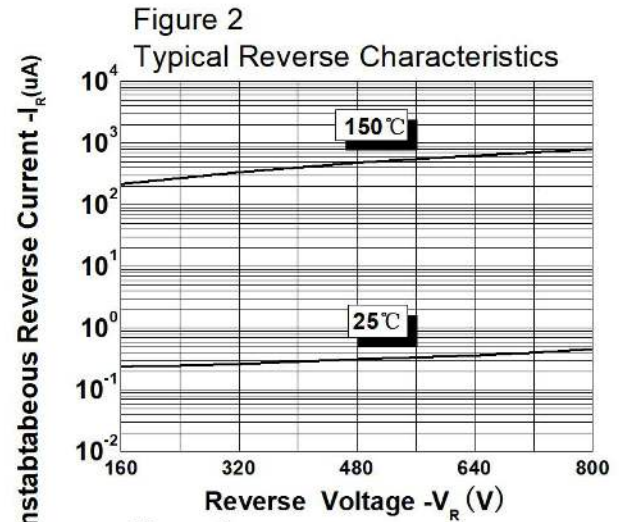
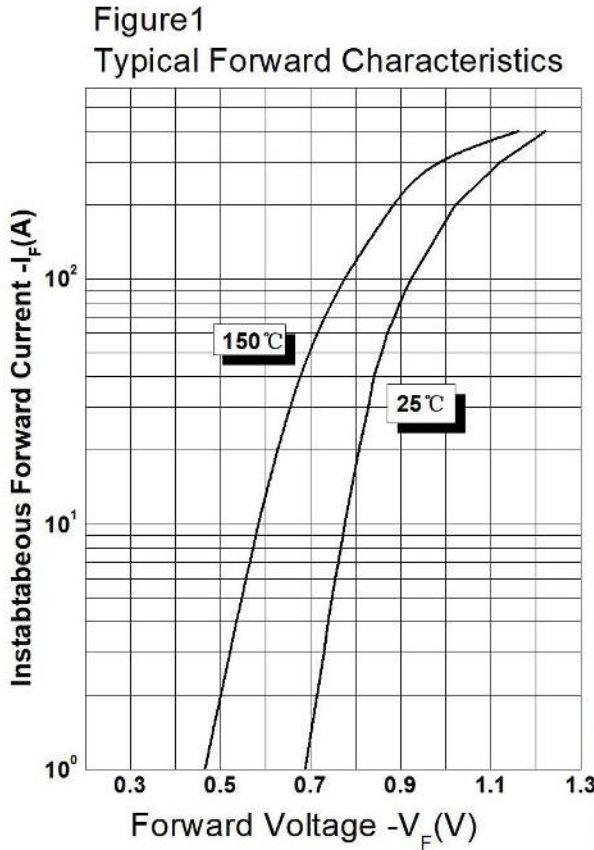
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(per leg)*	V_{F1}	@ 165A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.98	1.25	V
Reverse Current(per leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.45	20	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 150\text{ }^\circ\text{C}$	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%

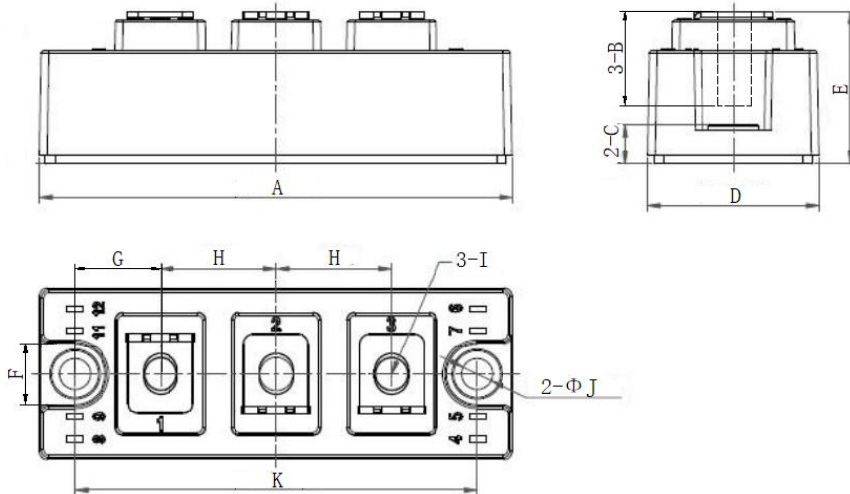
Thermal-Mechanical Specifications:

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)



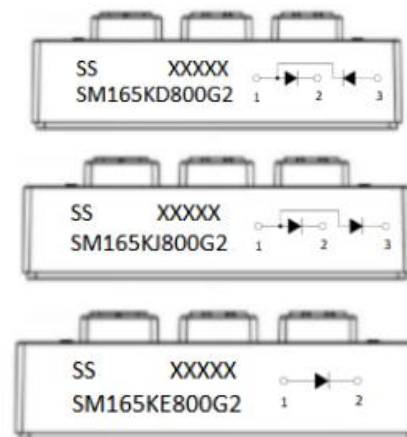
SYMBOL	Millimeters	
	Min.	Max.
A	93.7	94.3
B	7.6	-
C	7.7	8.3
D	33.7	34.3
E	30	31
F	12.2	-
G	16.8	17.2
H	22.8	23.2
I	M6	-
J	6.1	6.5
K	79.8	80.2

Ordering Information

Device	Package	Shipping
SM165KD800G2	T2	10pcs/ box
SM165KJ800G2		
SM165KE800G2		

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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