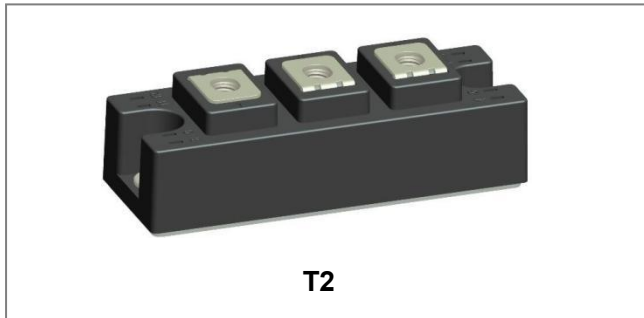


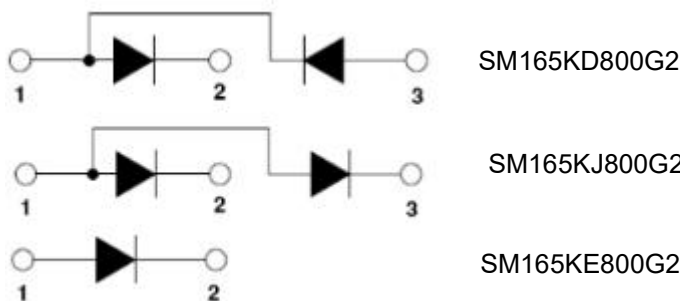
## SM165KD800G2 SM165KJ800G2 SM165KE800G2 Standard Recovery Diodes



### 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 <sup>2</sup> s
		t=10mS, 100 % VRRM reapplied	56	

### Electrical Characteristics:

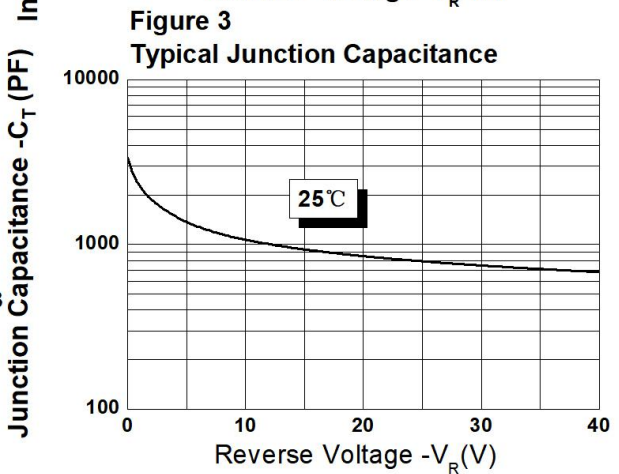
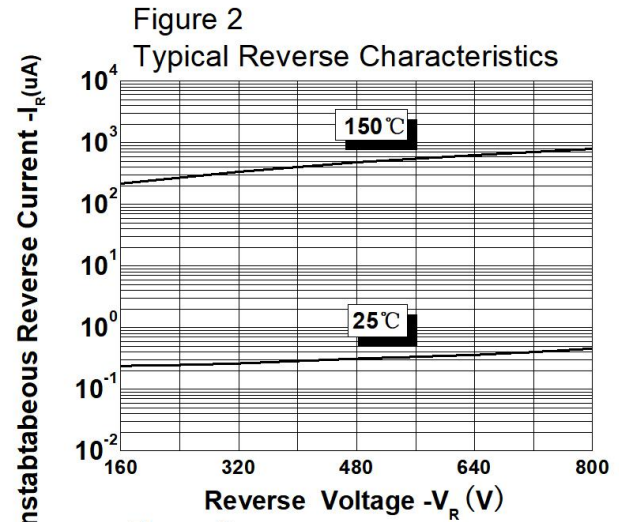
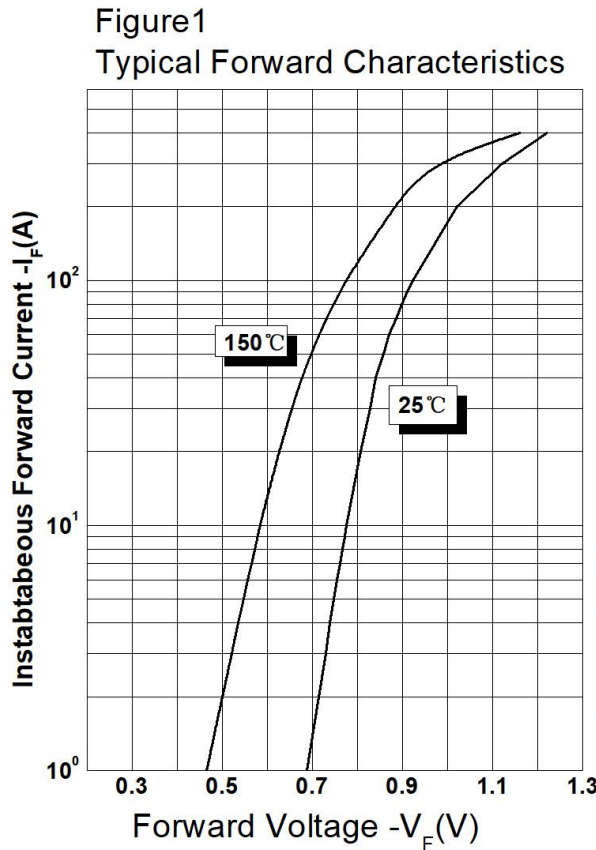
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(per leg)*	$V_{F1}$	@ 165A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.98	1.25	V
Reverse Current(per leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.45	20	$\mu\text{A}$
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 150\text{ }^\circ\text{C}$	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  $\mu\text{s}$ , duty cycle < 2%

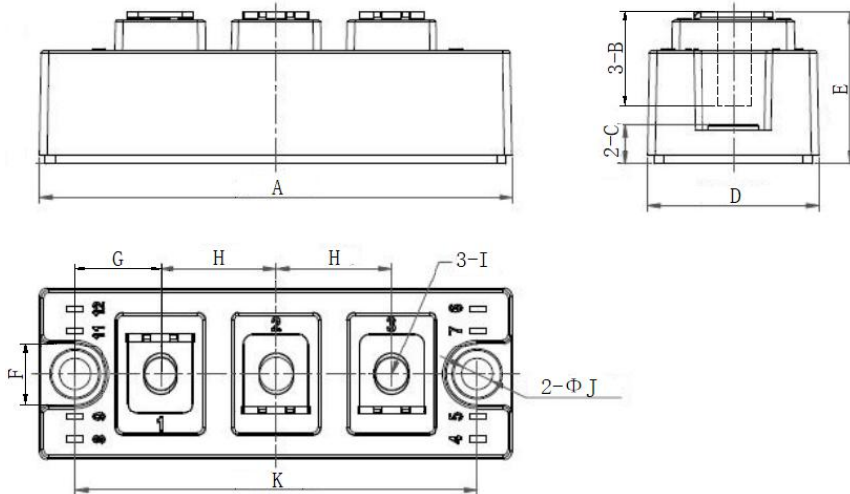
### Thermal-Mechanical Specifications:

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)**



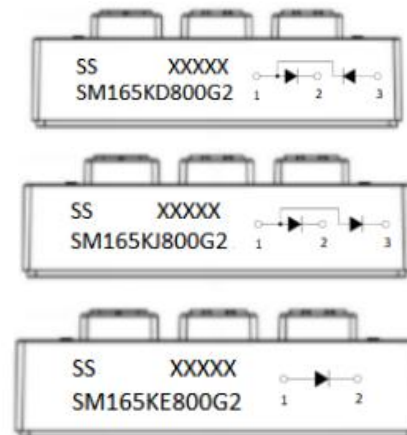
SYMBOL	Millimeters	
	Min.	Max.
A	93.7	94.3
B	7.6	-
C	7.7	8.3
D	33.7	34.3
E	30	31
F	12.2	-
G	16.8	17.2
H	22.8	23.2
I	M6	-
J	6.1	6.5
K	79.8	80.2

**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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