

**SPD150SCA(CA,CC,SA,SC)S1**

*preliminary data*

**Features**

- ✓ Repetitive Reverse Voltage :  $V_{RRM} = 600V$
- ✓ Forward Voltage :  $V_F(\text{typ.})=1.3V$
- ✓ Average Forward Current :  $I_{F(AV)} = 150A @ T_C=80^\circ C$
- ✓ Industrial Standard Package with isolated copper base plate
- ✓ High Surge Capability

**Application**

- ✓ DC motor control and Drives
- ✓ Battery Charger
- ✓ High Speed & High Power Converters
- ✓ Various Switching Power Supply
- ✓ Welder



**Absolute Maximum Ratings** ( $T_C=25^\circ C$ , unless otherwise noted.)

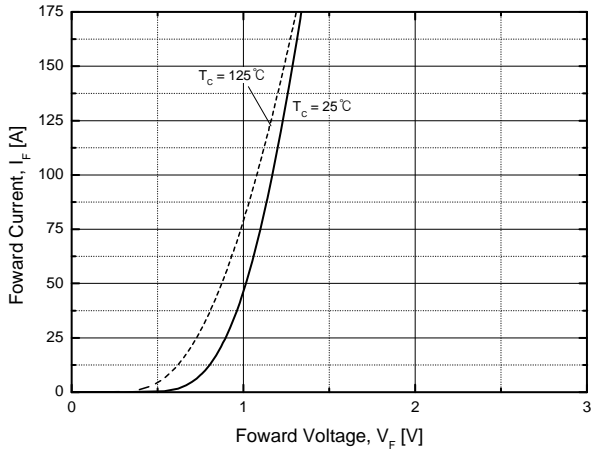
Symbol	Parameter	Conditions		Ratings	Unit
$V_{RRM}$	peak repetitive reverse voltage	-		600	V
$V_R$	D.C. reverse voltage	-		480	V
$I_{F(AV)}$	max. average forward current	$T_C=25^\circ C$		200	A
		$T_C=80^\circ C$		150	
$I_{FSM}$	non-repetitive forw. surge current	10 ms, sin 180°	$T_j=25^\circ C$	1,970	A
			$T_j=150^\circ C$	1,620	
$i^2t$	max. $i^2t$ for fusing	$T_j=150^\circ C$ , 10 ms, sin 180°		6,562	A <sup>2</sup> s
$P_D$	total power dissipation per leg	$T_C=25^\circ C$		1,000	W
		$T_C=80^\circ C$		630	W
$T_j$	operating junction temperature	-		-40 ~ 175	°C
$T_{stg}$	storage temperature range	-		-40 ~ 125	°C
$V_{ISOL}$	Isolation test voltage	RMS, f=50Hz, t=1 minutes		2,500	V
Weight	module			170	g
-	terminal mounting torque (M5)	typical		3.0	N.m

**Electrical Characteristics** ( $T_C=25^\circ\text{C}$ , unless otherwise noted.)

Symbol	Parameter	min.	typ.	max.	Units	Conditions
$BV_R$	cathode-anode breakdown voltage	600	-	-	V	$I_{RM} = 240\mu\text{A}$
$V_F$	forward voltage	-	1.3	1.5	V	$T_C=25^\circ\text{C}$ , $I_F = 150\text{A}$
		-	1.2	-	V	$T_C=125^\circ\text{C}$ , $I_F = 150\text{A}$
$I_{RM}$	reverse leakage current	-		240	$\mu\text{A}$	$T_C=80^\circ\text{C}$ , $V_R = 600\text{V}$
$t_{rr}$	reverse recovery time	-	240	-	ns	$I_F = 200\text{A}$ , $V=300\text{V}$ , $di/dt = 1,500/\mu\text{s}$ , $T_j=150^\circ\text{C}$
$R_{th(j-c)}$	junction-to-case	-	-	0.15	$^\circ\text{C}/\text{W}$	
$R_{th(C-S)}$	case to heat-sink	-	0.05	-	$^\circ\text{C}/\text{W}$	

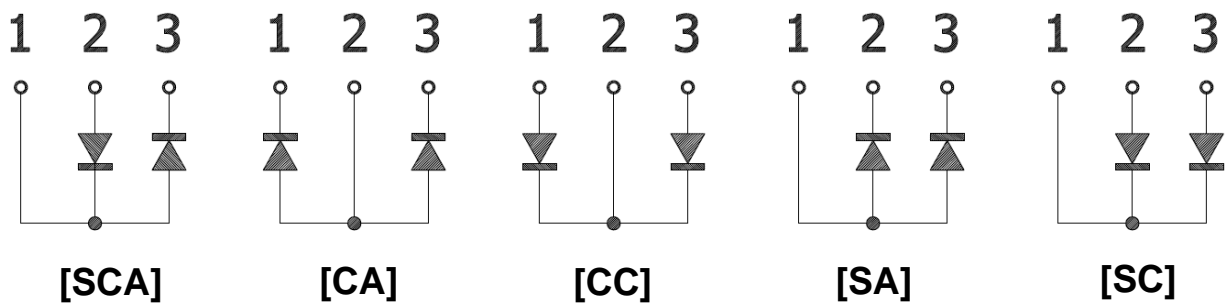
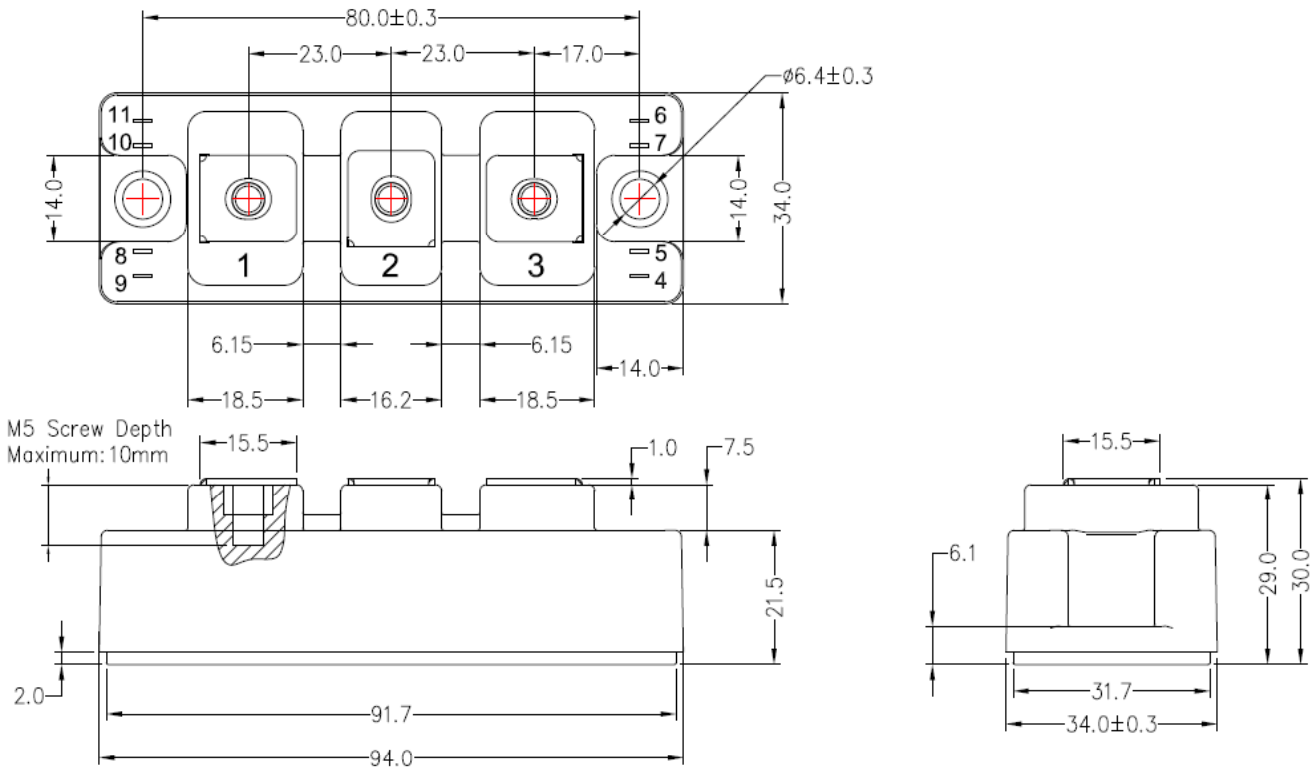
**Performance Curves**

Fig. 1 Forward voltage drop versus forward current



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**Package Outline (Dimension in mm)**



\* Technical information on this specification subject to change without any notice.