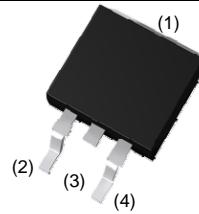


$V_R$	650V
$I_F$	10A
$Q_C$	15nC

### ●Outline

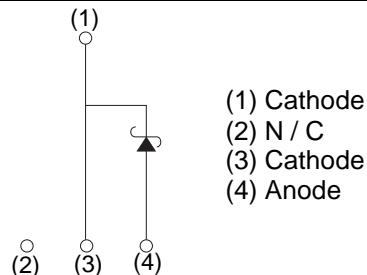
LPT(L)  
<TO-263AB>



### ●Features

- 1) Shorter recovery time
- 2) Reduced temperature dependence
- 3) High-speed switching possible

### ●Inner circuit



### ●Packaging specifications

Type	Packaging	Embossed tape
	Reel size (mm)	330
	Tape width (mm)	24
	Basic ordering unit (pcs)	1,000
	Packing code	TLL
	Marking	SCS210AJ

### ●Absolute maximum ratings ( $T_j = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Reverse voltage (repetitive peak)	$V_{RM}$	650	V
Reverse voltage (DC)	$V_R$	650	V
Continuous forward current	$I_F$	$10^{*1}$	A
		$40^{*2}$	A
Surge no repetitive forward current	$I_{FSM}$	$150^{*3}$	A
		$31^{*4}$	A
Repetitive peak forward current	$I_{FRM}$	$42^{*5}$	A
Total power dissipation	$P_D$	$83^{*6}$	W
Junction temperature	$T_j$	175	$^\circ\text{C}$
Range of storage temperature	$T_{stg}$	-55 to +175	$^\circ\text{C}$

\*1  $T_c=137^\circ\text{C}$  \*2  $PW=8.3\text{ms}$  sinusoidal,  $T_j=25^\circ\text{C}$

\*3  $PW=10\mu\text{s}$  square,  $T_j=25^\circ\text{C}$  \*4  $PW=8.3\text{ms}$  sinusoidal,  $T_j=150^\circ\text{C}$

\*5  $T_c=100^\circ\text{C}$ ,  $T_j=150^\circ\text{C}$ , Duty cycle=10% \*6  $T_c=25^\circ\text{C}$

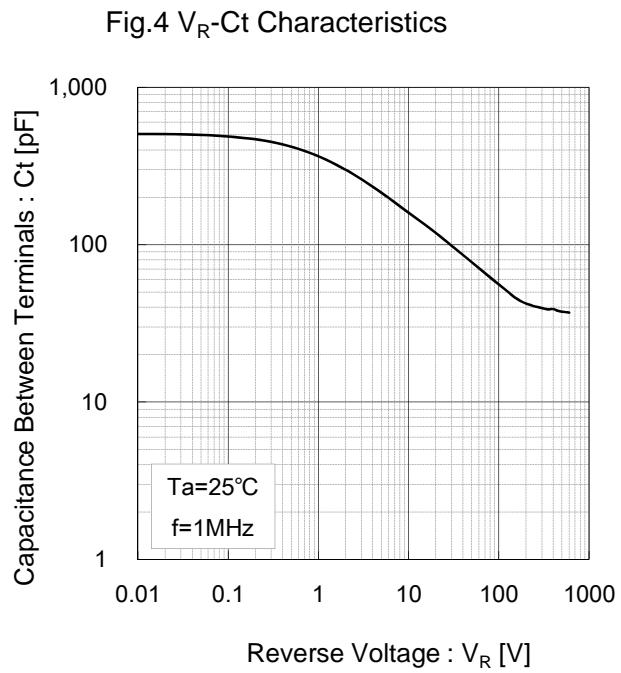
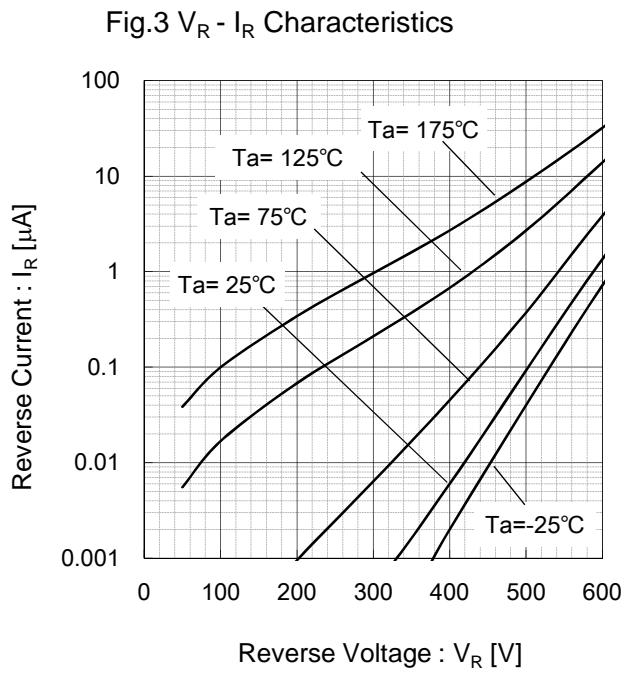
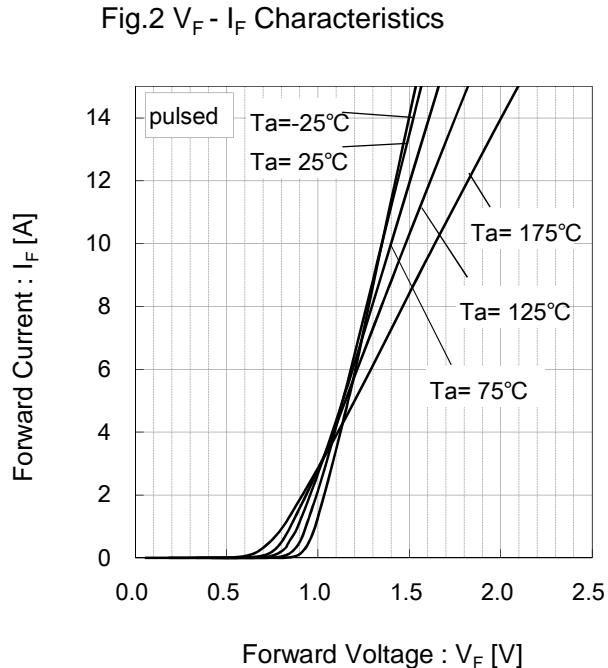
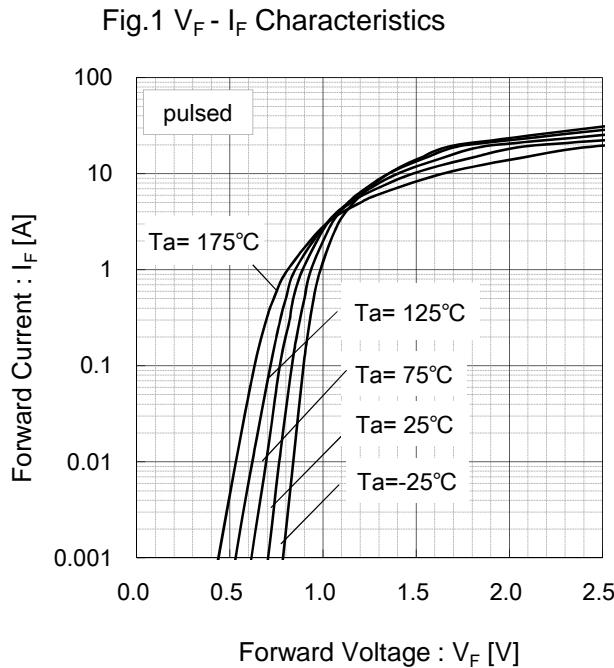
●Electrical characteristics ( $T_j = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
DC blocking voltage	$V_{DC}$	$I_R = 0.2\text{mA}$	600	-	-	V
Forward voltage	$V_F$	$I_F = 10\text{A}, T_j = 25^\circ\text{C}$	-	1.35	1.55	V
		$I_F = 10\text{A}, T_j = 150^\circ\text{C}$	-	1.55	-	V
		$I_F = 10\text{A}, T_j = 175^\circ\text{C}$	-	1.63	-	V
Reverse current	$I_R$	$V_R = 600\text{V}, T_j = 25^\circ\text{C}$	-	2	200	$\mu\text{A}$
		$V_R = 600\text{V}, T_j = 150^\circ\text{C}$	-	30	-	$\mu\text{A}$
		$V_R = 600\text{V}, T_j = 175^\circ\text{C}$	-	70	-	$\mu\text{A}$
Total capacitance	C	$V_R = 1\text{V}, f = 1\text{MHz}$	-	365	-	pF
		$V_R = 600\text{V}, f = 1\text{MHz}$	-	37	-	pF
Total capacitive charge	$Q_c$	$V_R = 400\text{V}, di/dt = 350\text{A}/\mu\text{s}$	-	15	-	nC
Switching time	$t_c$	$V_R = 400\text{V}, di/dt = 350\text{A}/\mu\text{s}$	-	15	-	ns

## ●Thermal characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Thermal resistance	$R_{th(j-c)}$	-	-	1.5	1.8	$^\circ\text{C}/\text{W}$

● Electrical characteristic curves



●Electrical characteristic curves

Fig.5 Thermal Resistance vs. Pulse Width

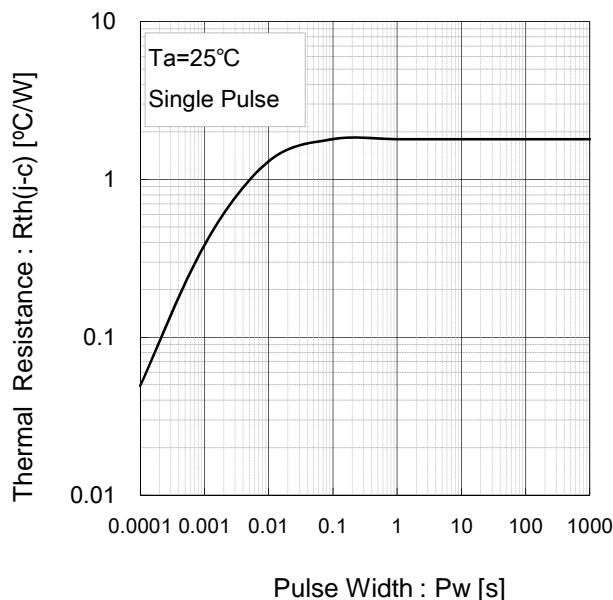


Fig.6 Power Dissipation

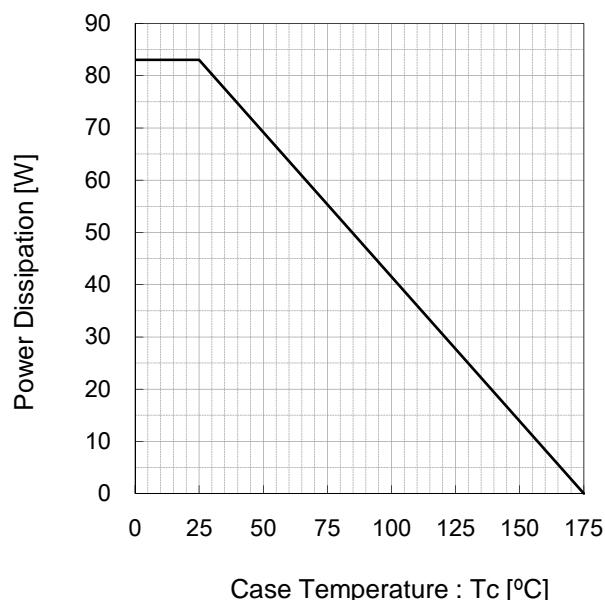


Fig.7 Derating Curve  $I_p$ - $T_c$

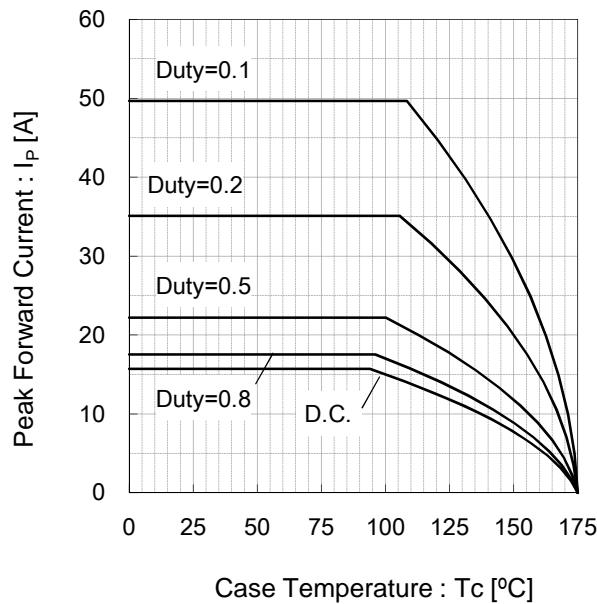
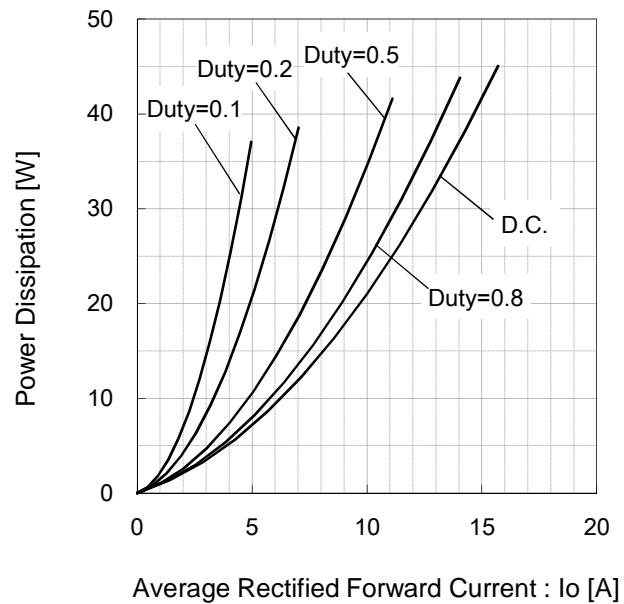


Fig.8  $I_o$ - $P_f$  Characteristics



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