SZCJ

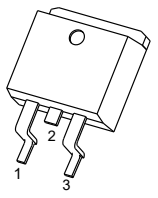
IIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD .

TO-263-2L Plastic-Encapsulate MOSFETS

CJB85SN08C N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$Typ	I_D
80V	6.0mΩ@10V	85A

TO-263-2L



1. GATE
2. DRAIN
3. SOURCE

GENERAL DESCRIPTION

The CJB85SN08C uses shielded gate trench technology and design to provide excellent RDS(ON) with low gate charge. It can be used in a wide variety of applications

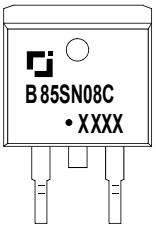
FEATURE

- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified

APPLICATION

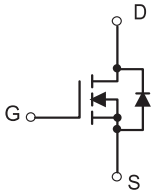
- Power switching application

MARKING



B85SN08C= Device code
Solid dot = Green molding compound device if none, the normal device
XXXX= Code

EQUIVALENT CIRCUIT



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	80	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D①	85	A
Pulsed Drain Current	I_{DM}①②	320	A
Single Pulsed Avalanche Energy	E_{AS}③	400	mJ
Power Dissipation	P_D①	125	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$⑥	62.5	℃/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$①	1.0	℃/W
Operation Junction and Storage Temperature Range	T_J ,T_{stg}	-55 ~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

Parameter	Symbol	Test Condition		Min	Typ	Max	Unit
Off characteristics							
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D = 250uA		80			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =64V, V_{GS} =0V	T_J =25℃			1.0	μA
			T_J =125℃			100	
Gate-body leakage current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V				±100	nA
On characteristics ④							
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250uA		2.0	3.0	4.0	V
Static drain-source on-sate resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 20A			6.0	8.0	mΩ
Dynamic characteristics ⑤							
Input capacitance	C_{iss}	V_{DS} = 25V,V_{GS} = 0V, f = 1MHz			3113	4700	pF
Output capacitance	C_{oss}				1150	1800	
Reverse transfer capacitance	C_{rss}				224	390	
Gate resistance	R_g	f = 1MHz			3.2		Ω
Switching characteristics ⑤							
Total gate charge	Q_g	V_{DS}=20V,I_D=5A V_{GS}=10V			49	98	nC
Gate-source charge	Q_{gs}				16	32	
Gate-drain charge	Q_{gd}				13	26	
Turn-on delay time	$t_{d(on)}$	V_{DS}=30V,I_D=40A V_{GS}=10V,R_G=2.5Ω, R_L=15Ω			16	32	ns
Turn-on rise time	t_r				34	68	
Turn-off delay time	$t_{d(off)}$				26	52	
Turn-off fall time	t_f				17	34	
Drain-Source Diode Characteristics							
Drain-source diode forward voltage(note1)	V_{SD} ④	V_{GS} = 0V, I_S = 20A				1.2	V
Continuous drain-source diode forward current	I_S ①					85	A
Pulsed drain-source diode forward current	I_{SM} ①②					320	A

Notes:

1.T_C=25℃ Limited only by maximum temperature allowed.

2.P_W≤10μs, Duty cycle≤1%.

3.EAS condition: V_{DD}=30V,V_{GS}=10V, L=0.5mH, Rg=25Ω Starting T_J = 25°℃.

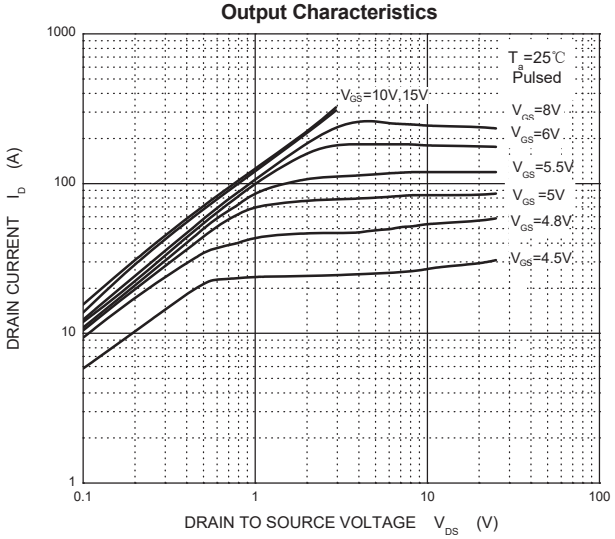
4.Pulse Test : Pulse Width≤300μs, duty cycle ≤2%.

5.Guaranteed by design, not subject to production.

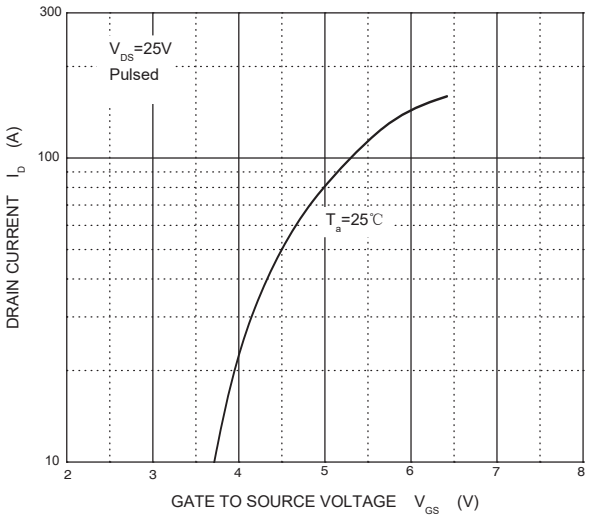
6.The value of RθJA is measured with the device in a still air environment with T_a=25℃.

Typical Characteristics

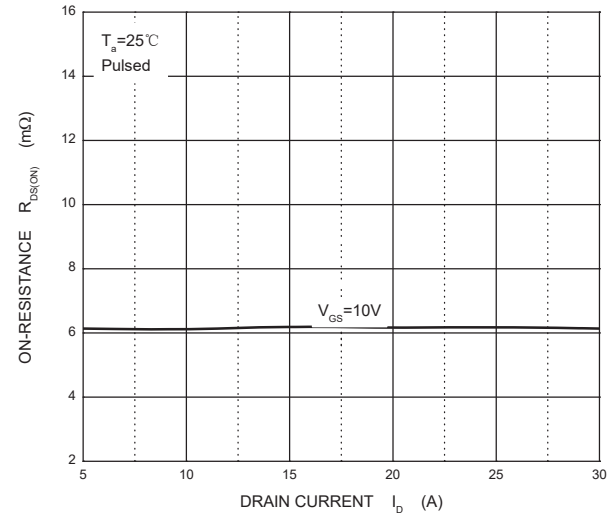
Output Characteristics



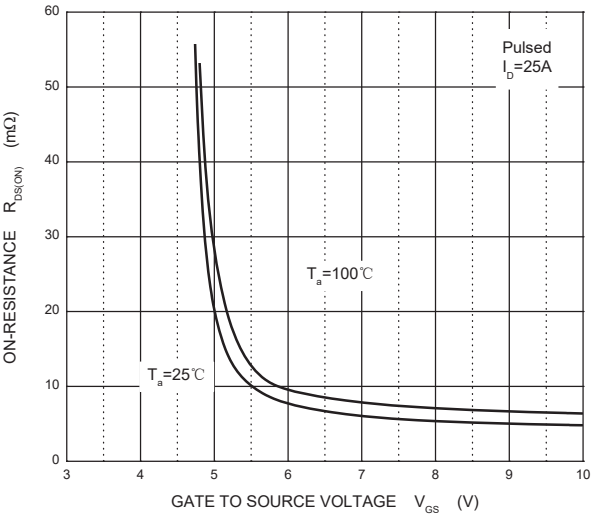
Transfer Characteristics



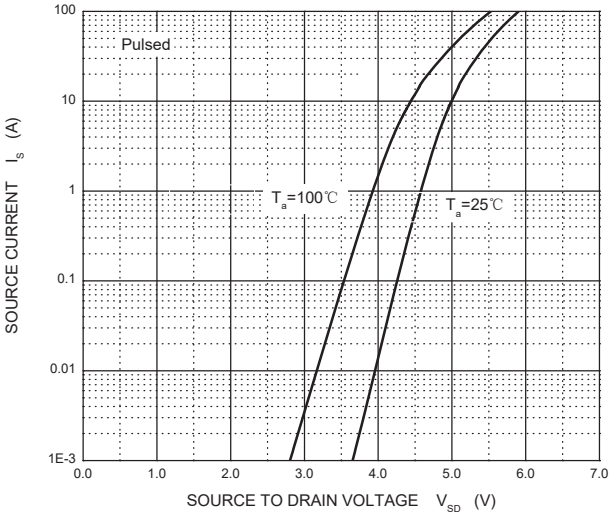
$R_{DS(ON)}$ —— I_D



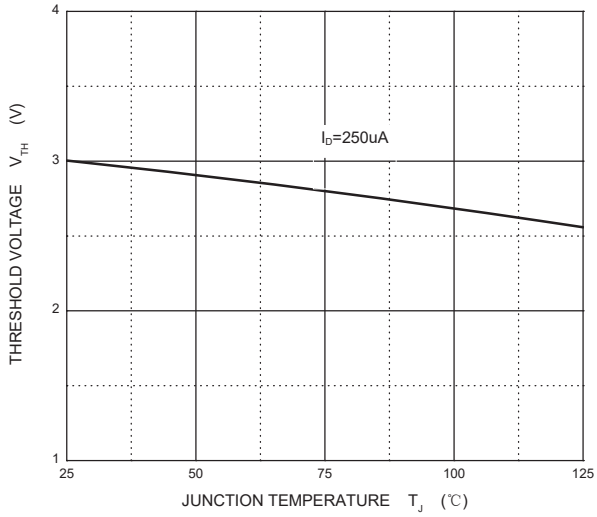
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}

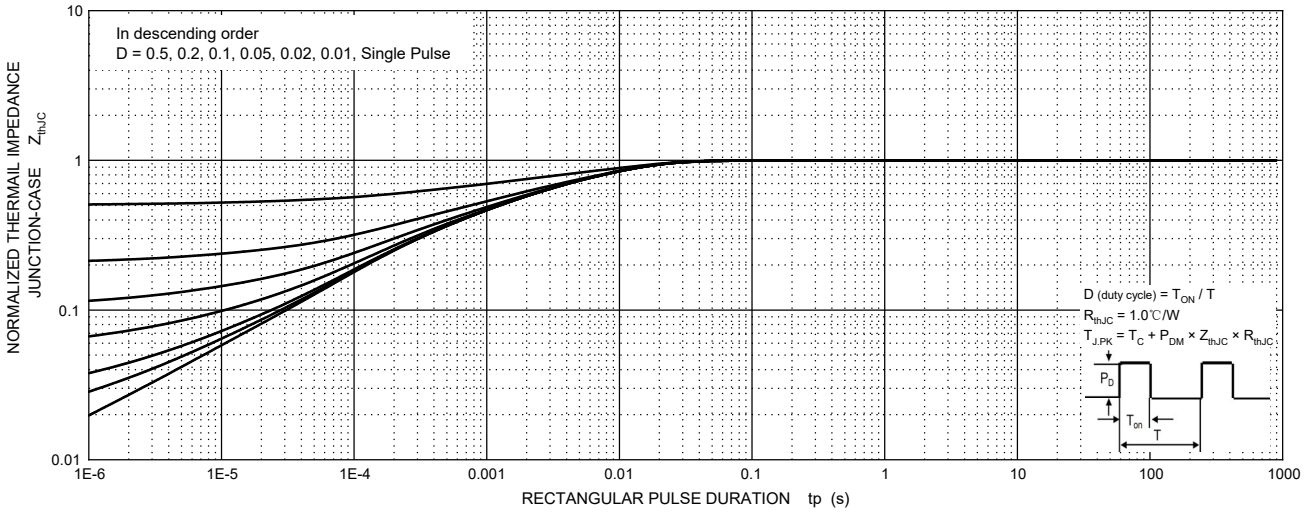


Threshold Voltage

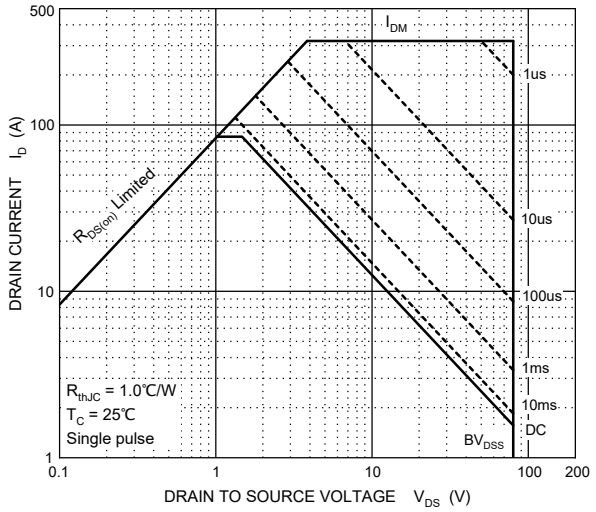


Typical Characteristics

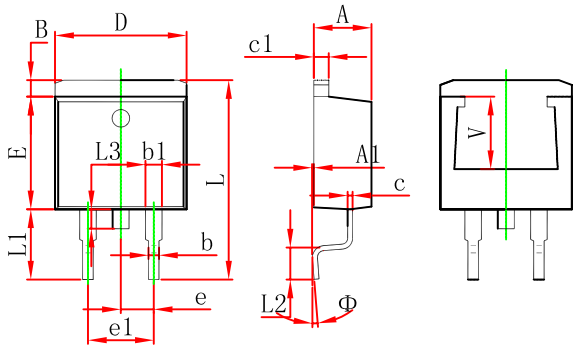
Transient Thermal Impedance, Junction-Case



Maximum Safe Operating Area

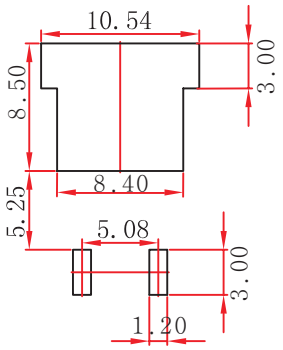


TO-263-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220REF.	

TO-263-2L Suggested Pad Layout



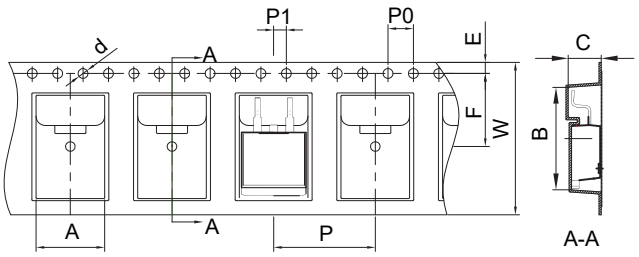
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

TO-263-2L Tape and Reel

TO-263-2L Embossed Carrier Tabe

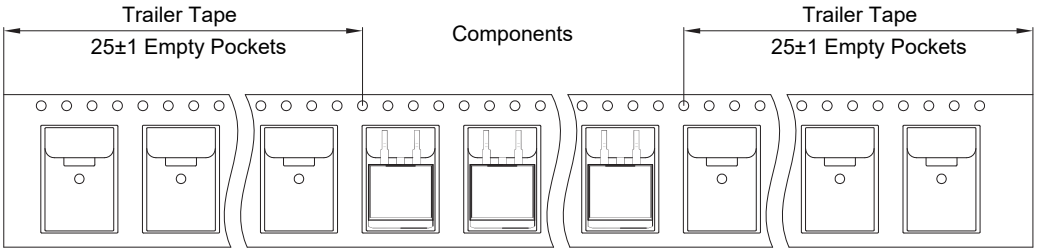


Packaging Description:

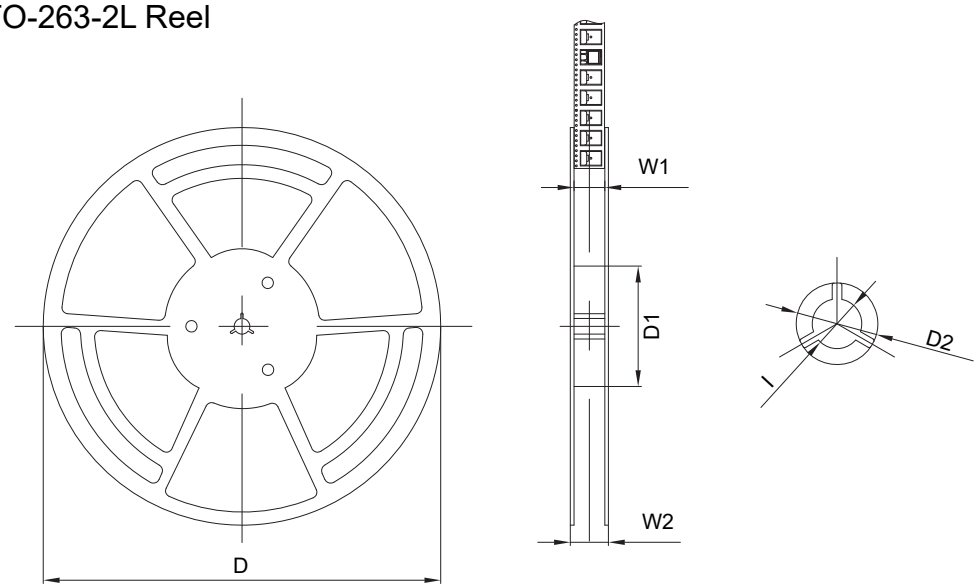
TO-263-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Hear Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 800 units per 13″ or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-263	10.80	16.13	5.21	Φ1.55	1.75	11.50	4.00	16.00	2.00	24.00

TO-263-2L Tape Leader and Trailer



TO-263-2L Reel



Dimensions are in millimeter						
Reel	D	D1	D2	W1	W2	I
13" Dia	330.00	100.00	Φ21.00	24.40	30.40	Φ13.00

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
800 pcs	13 inch	1600 pcs	360×360×65	8000 pcs	378×358×382