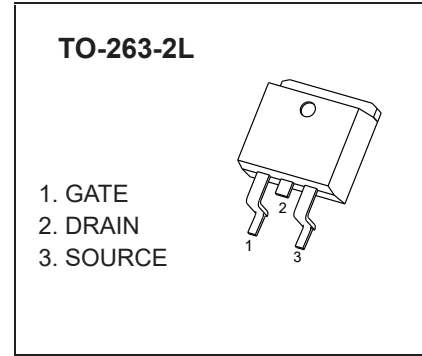




TO-263-2L Plastic-Encapsulate MOSFETS

CJB85SN08C N-Channel Power MOSFET

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



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

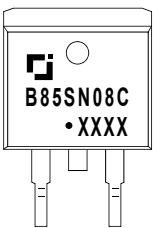
FEATURE

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

APPLICATION

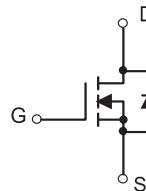
- Power switching application

MARKING



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

EQUIVALENT CIRCUIT



Maximum ratings (T_a=25°C unless otherwise noted)

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

MOSFET ELECTRICAL CHARACTERISTICS

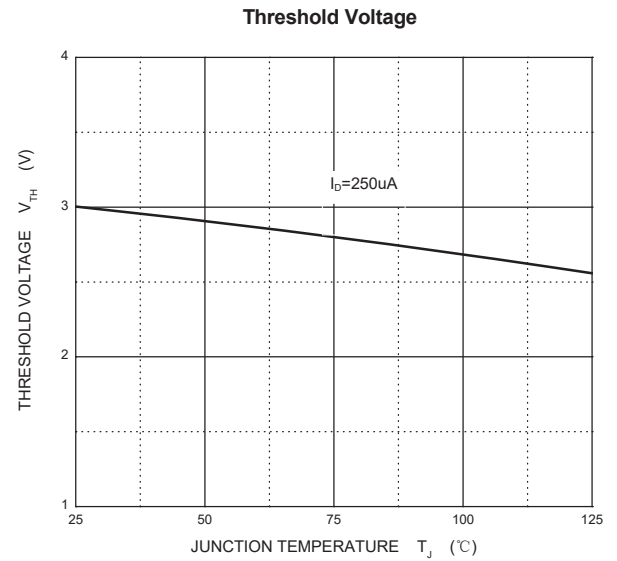
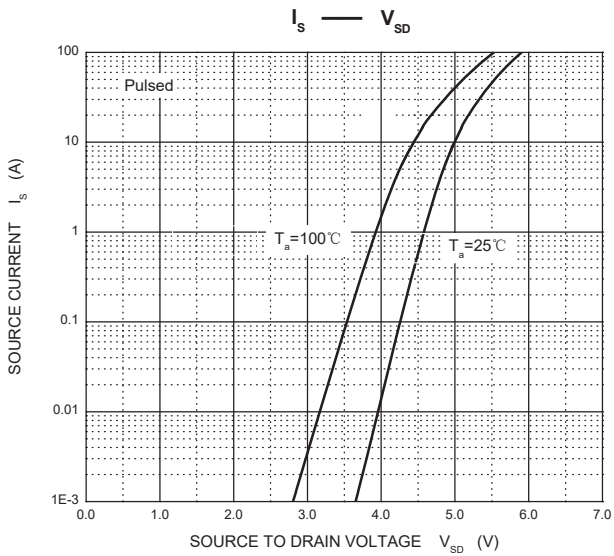
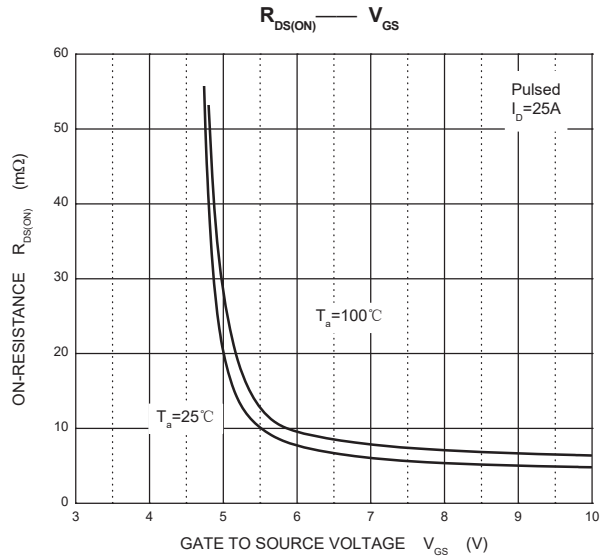
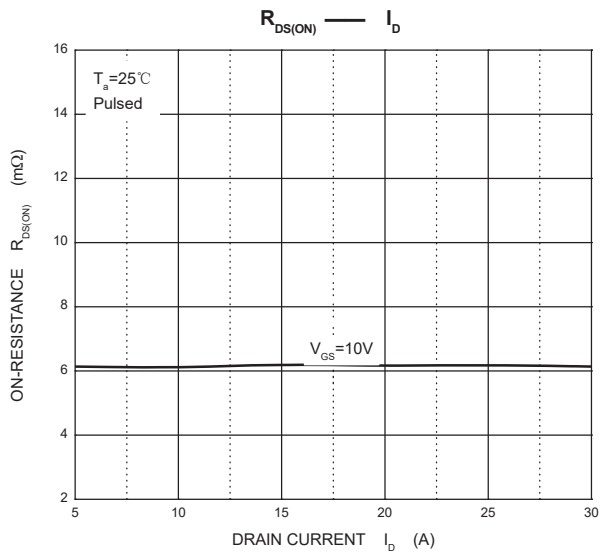
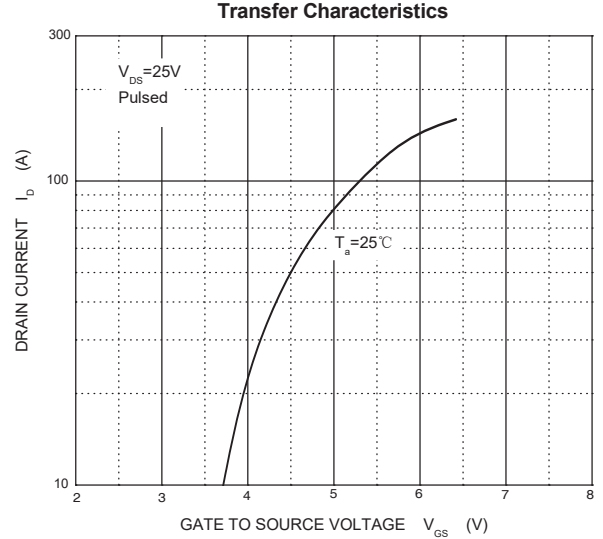
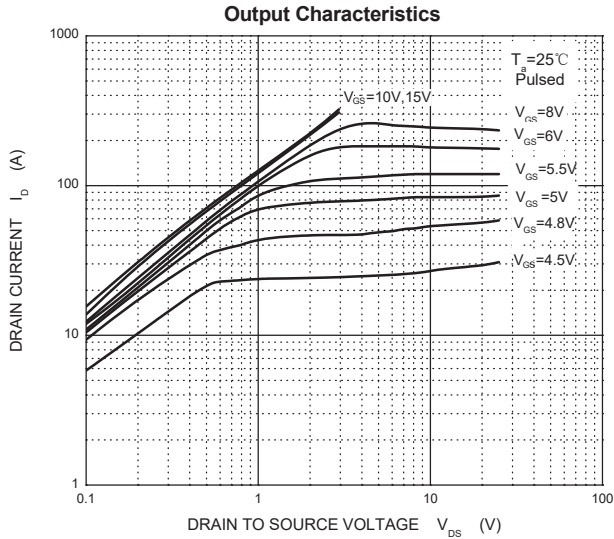
$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	80			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 64V, V_{GS} = 0V$	$T_J = 25\text{ }^\circ\text{C}$		1.0	μA
			$T_J = 125\text{ }^\circ\text{C}$		100	
Gate-body leakage current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
On characteristics ^④						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0	3.0	4.0	V
Static drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 20A$		6.0	8.0	m Ω
Dynamic characteristics ^⑤						
Input capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		3113	4700	μF
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	$t_{d(on)}$	$V_{DS} = 30V, I_D = 40A, V_{GS} = 10V, R_G = 2.5\Omega, R_L = 15\Omega$		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:

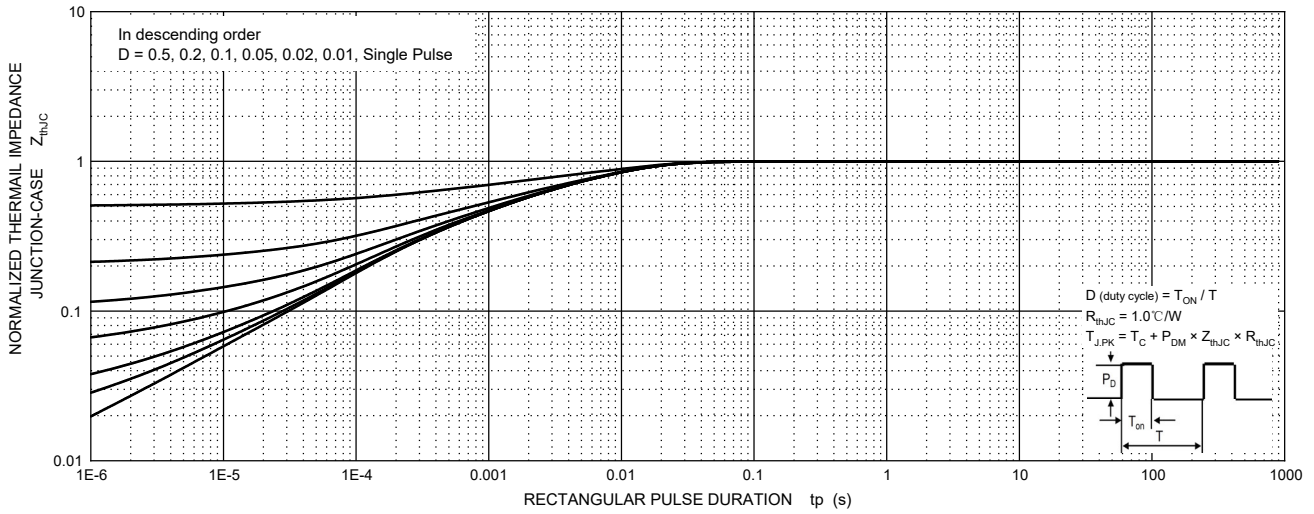
- $T_C=25\text{ }^\circ\text{C}$ Limited only by maximum temperature allowed.
- $P_W \leq 10\mu s$, Duty cycle $\leq 1\%$.
- EAS condition: $V_{DD}=30V, V_{GS}=10V, L=0.5mH, R_g=25\Omega$ Starting $T_J = 25\text{ }^\circ\text{C}$.
- Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- Guaranteed by design, not subject to production.
- The value of $R_{\theta JA}$ is measured with the device in a still air environment with $T_a=25\text{ }^\circ\text{C}$.

Typical Characteristics

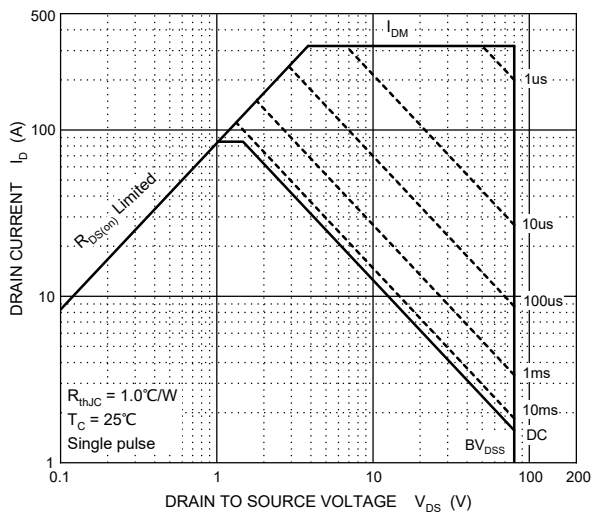


Typical Characteristics

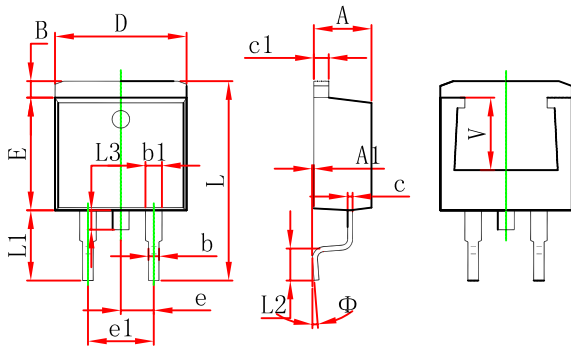
Transient Thermal Impedance, Junction-Case



Maximum Safe Operating Area

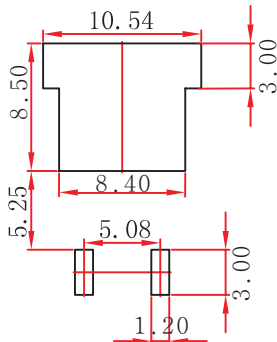


TO-263-2L Package Outline Dimensions



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.		0.220 REF.	

TO-263-2L Suggested Pad Layout



Note:

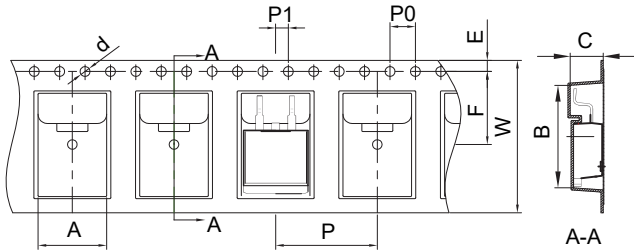
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

TO-263-2L Tape and Reel

TO-263-2L Embossed Carrier Tape

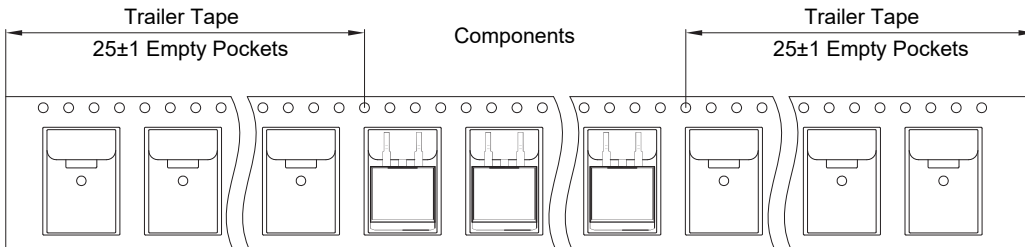


Packaging Description:

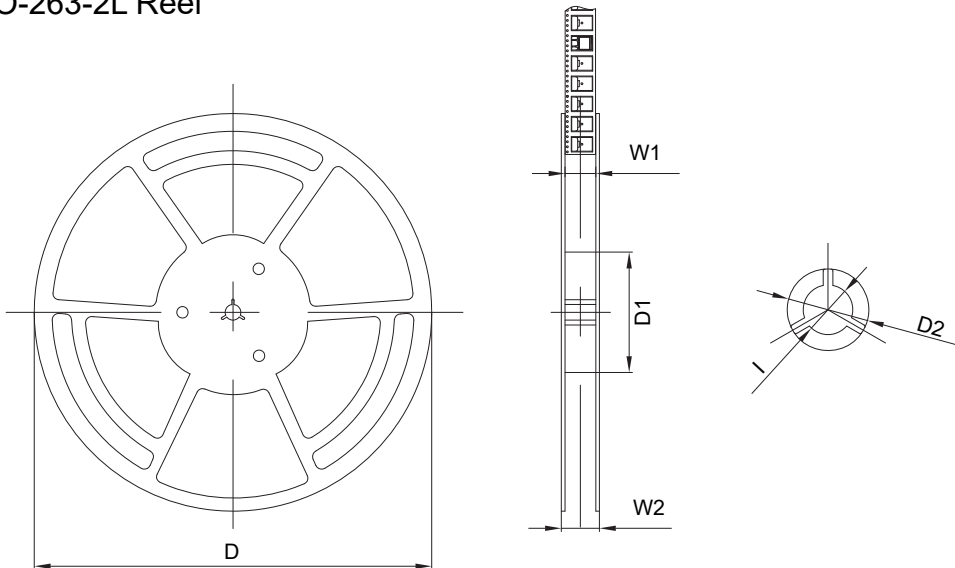
TO-263-2L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Hear Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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	l
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