

Features

- Input Voltage up to 20V
- MOSFET Turn on Resistor RSS(ON)
=33mohm(Max)@Vgs=4.5V
- Drain to Drain MOSFET Module
- With ESD Protection
- Continuous Current=5.2A
- Green Product (RoHS, Lead-Free, Halogen-Free Compliant)

General Description

The GS95A8CS-R drain to drain connected MOSFET module provides an integrated solution with small dimension for battery pack of Mobile phone and electronic bracelet application.

Applications

- Mobile phone
- Electronic Bracelet

Typical Application

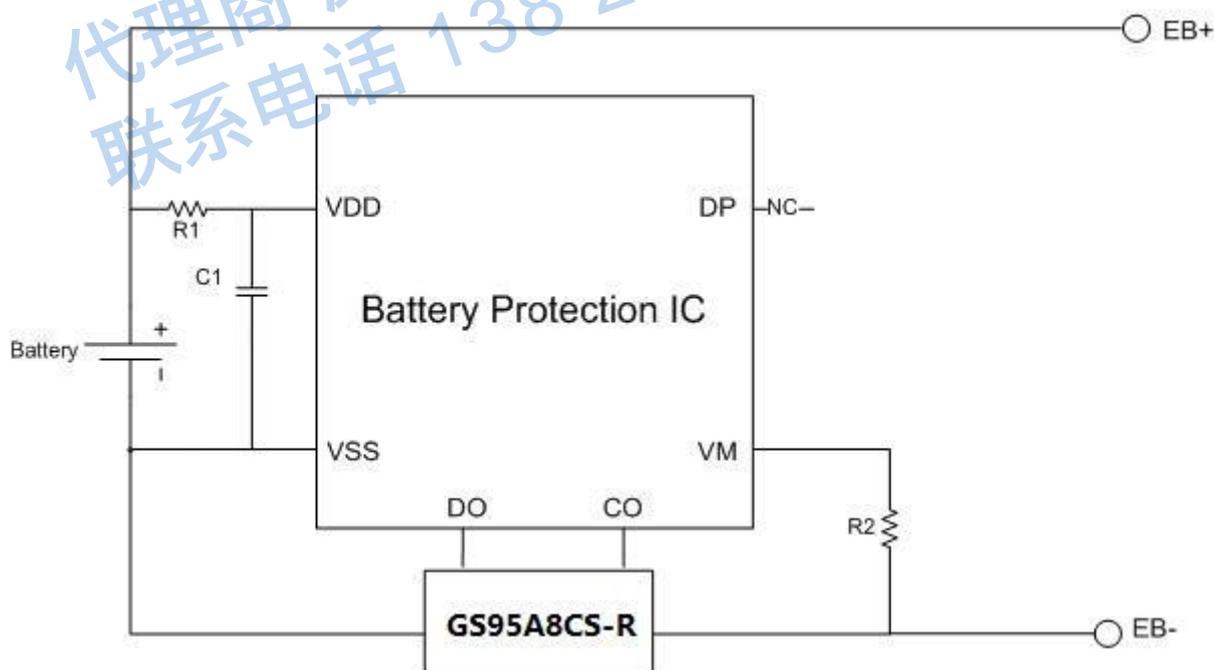


Figure 1 Application of GS95A8CS-R used in battery pack

Function Block Diagram

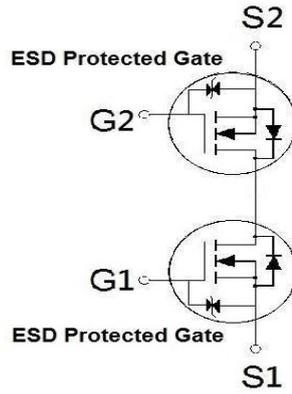


Figure 2 Function Block Diagram

Pin Configuration

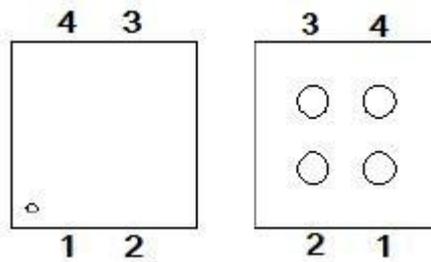


Figure 3 WLCSP 1.1 x 1.1

Pin Descriptions

No.	Name	I/O type	Description
1	S1	I/O	Source1
2	G1	I	Gate1
3	G2	I	Gate2
4	S2	I/O	Source2

Absolute Maximum Ratings (T_A=25°C Unless Otherwise Noted)

PARAMETER / TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Source-Source Voltage	V _{SSS}	20	V
Gate-Source Voltage	V _{GSS}	±12	V
Continuous Source Current	I _S	5.2	A
Pulsed Source Current ¹	I _{SP}	50	A
Total Dissipation ²	P _T	1.6	W
Thermal Resistance ²	R _{θJA}	60	°C / W
Operating Junction & Storage Temperature Range	T _J & T _{stg}	-55~150	°C

¹PW≤10μs, duty cycle≤1%.

²When mounted on 1in² FR-4 board.

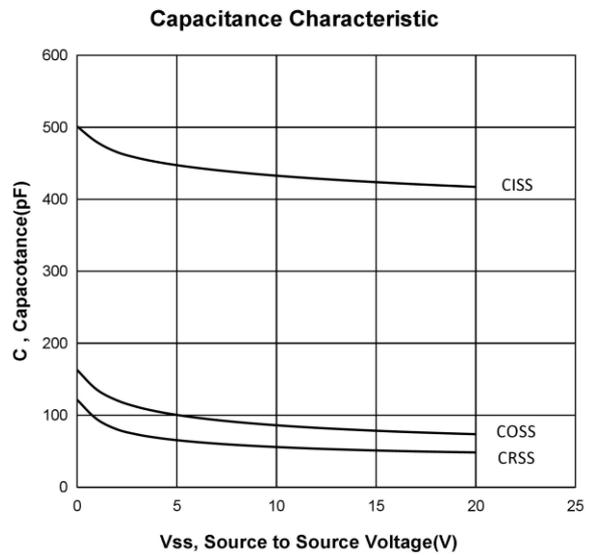
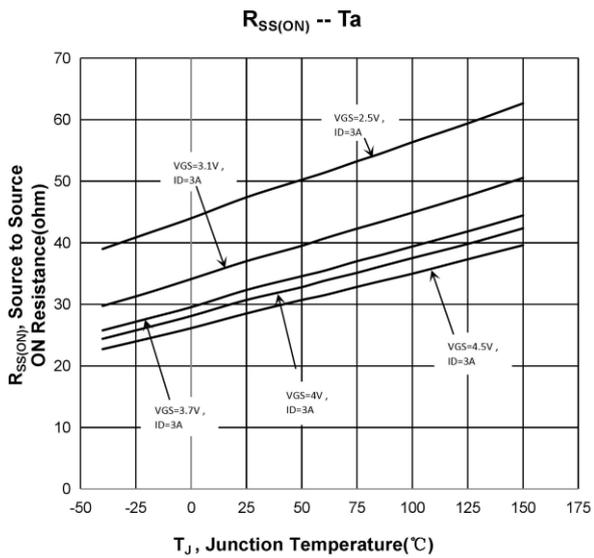
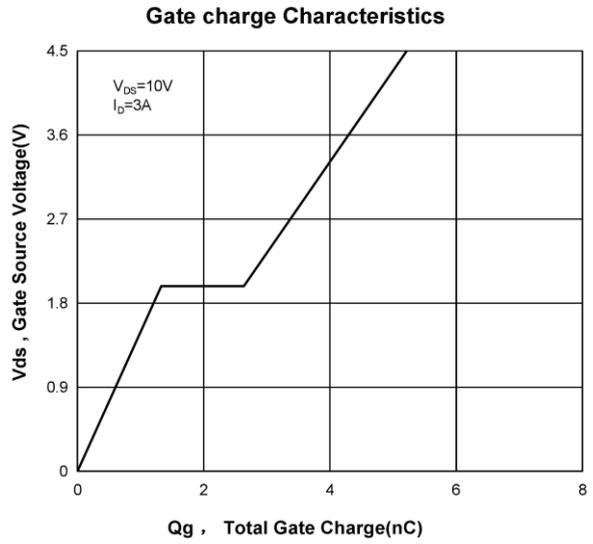
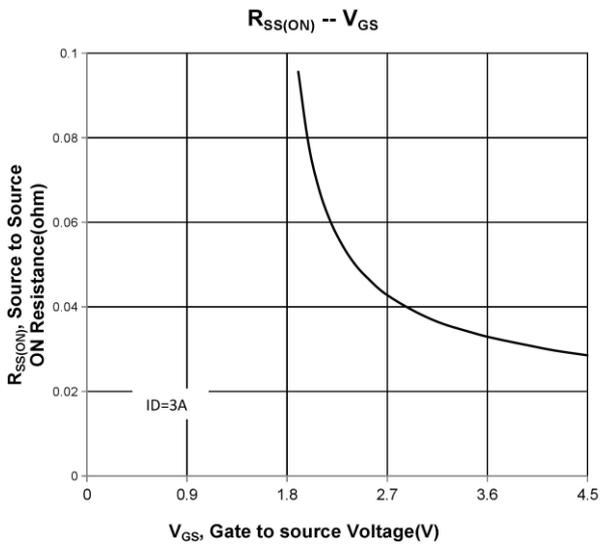
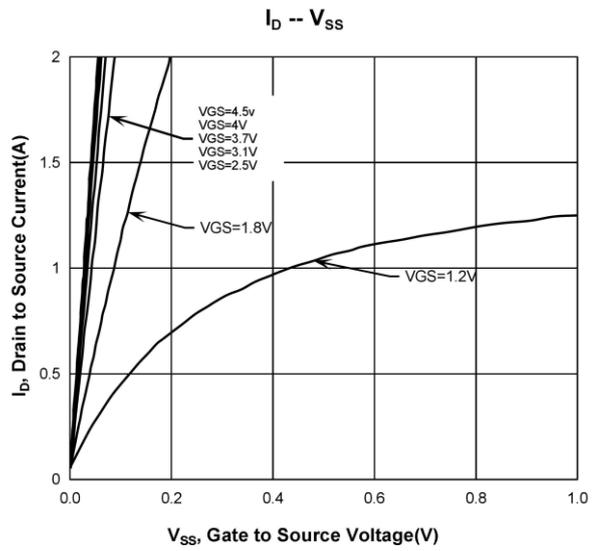
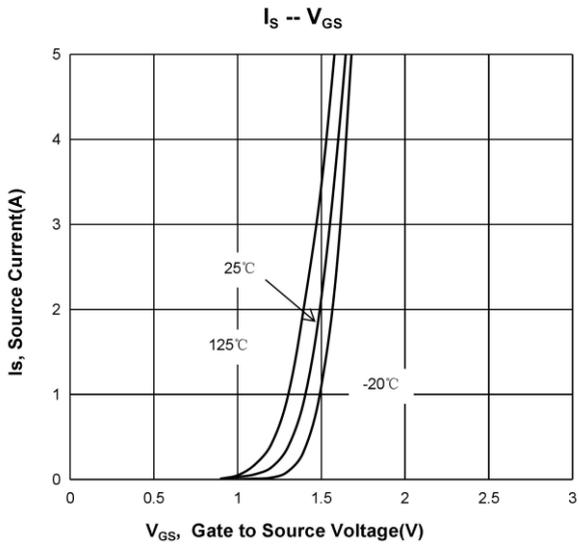
Electrical Characteristics (T_J=25°C Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
STATIC						
Source-Source Breakdown Voltage	V _{(BR)SSS}	V _{GS} = 0V, I _S = 1mA	20	25	30	V
Gate Threshold Voltage	V _{GS(th)}	V _{SS} = 10V, I _S = 1mA	0.7	1.1	1.5	
Gate-Source Leakage	I _{GSS}	V _{SS} = 0V, V _{GS} = ±8V	0.01	0.5	10	μA
		V _{SS} = 0V, V _{GS} = ±5V	0	0.1	2	
Zero Gate Voltage Source Current	I _{SSS}	V _{SS} = 20V, V _{GS} = 0V	0	0.01	1	μA
Source -Source On-State Resistance ¹	R _{SS(ON)}	V _{GS} = 4.5V, I _S = 3A	23	28	33	mΩ
		V _{GS} = 4V, I _S = 3A	24	30	36	
		V _{GS} = 3.7V, I _S = 3A	25	32	38	
		V _{GS} = 3.1V, I _S = 3A	27	35	43	
		V _{GS} = 2.5V, I _S = 3A	34	48	58	
Forward Transconductance ¹	g _{fs}	V _{SS} = 5V, I _S = 3A		14.8		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 10V, f = 1MHz	336	420	504	pF
Output Capacitance	C _{oss}		71	89	107	

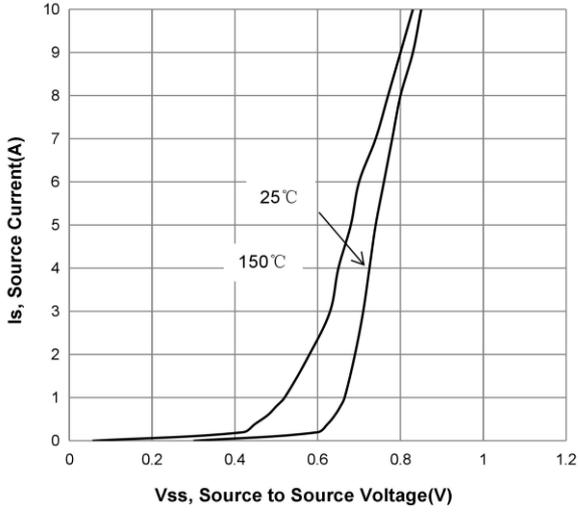
Reverse Transfer Capacitance	C_{rSS}		36	60	84	
Total Gate Charge ²	Q_g	$V_{SS} = 10V, V_{GS} = 4.5V, I_S = 3A$	4.16	5.2	6.24	nC
Turn-On Delay Time ²	$t_{d(on)}$	$V_{SS} = 10V, I_S \cong 3A, V_{GS} = 4.5V$	5.5	11	16.5	nS
Rise Time ²	t_r		23	46	69	
Turn-Off Delay Time ²	$t_{d(off)}$		11.5	23	34.5	
Fall Time ²	t_f		26.5	53	79.5	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25^\circ C$)						
Forward Source-Source Voltage ¹	V_F	$I_S = 3A, V_{GS} = 0V$		0.77	1.2	V

¹Pulse test : Pulse Width $\leq 300 \mu\text{sec}$, Duty Cycle $\leq 2\%$.

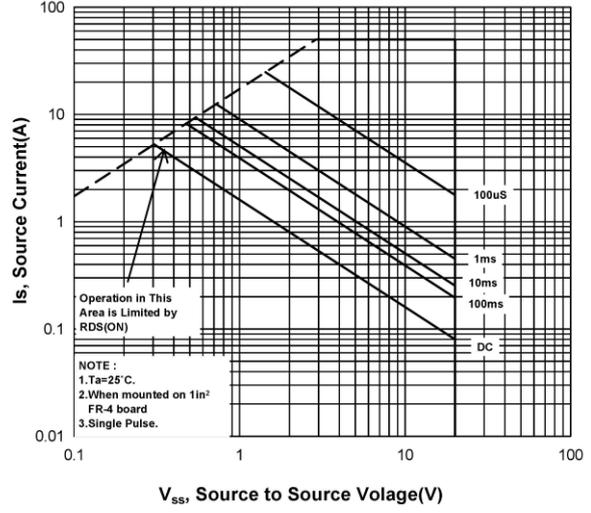
²Independent of operating temperature.



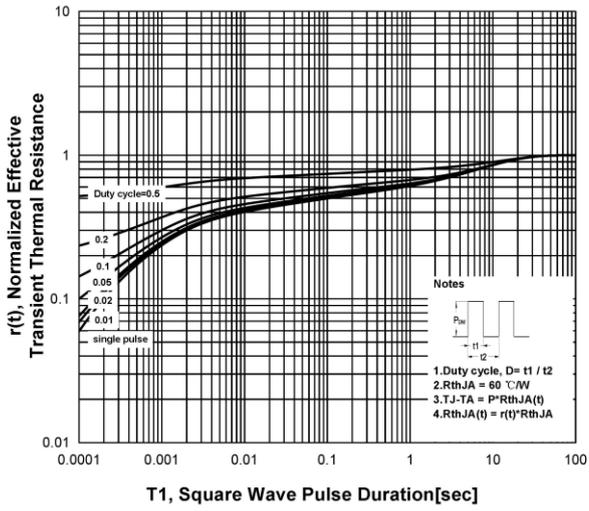
$I_S \text{ -- } V_F$



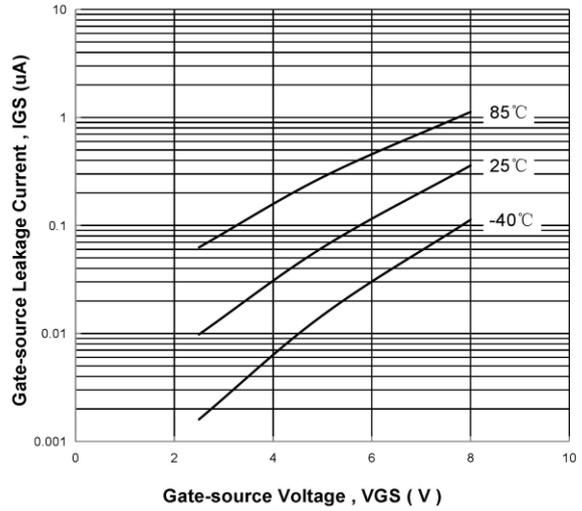
Safe Operating Area



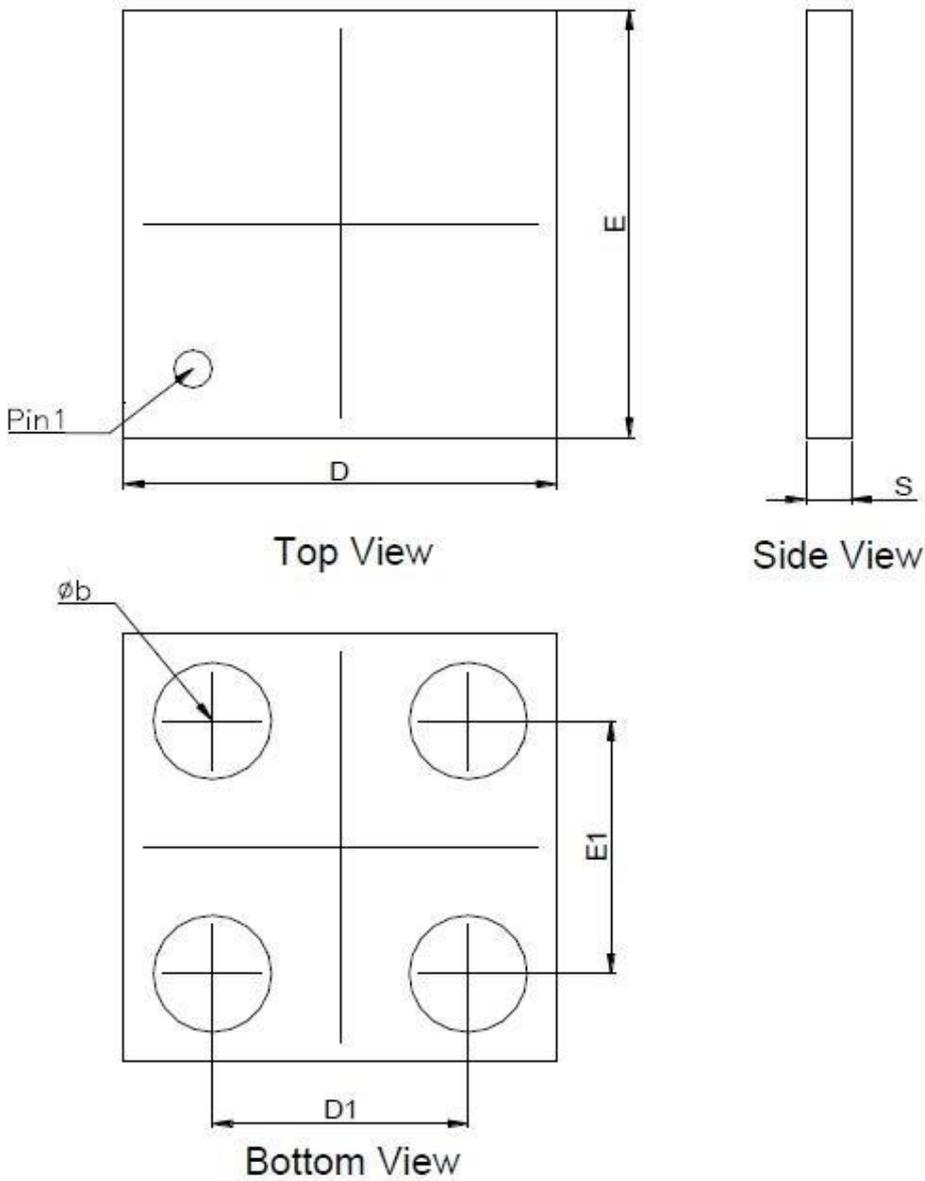
Transient Thermal Response Curve



IGS - VGS



Package Dimensions, WLCSP 1.1x1.1

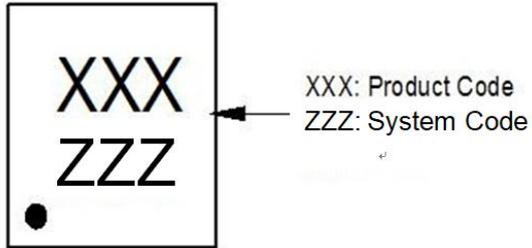


Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
ϕ_b		0.3	
D		1.1	
$D1$		0.65	
E		1.1	
$E1$		0.65	
S	0.095	0.115	0.135

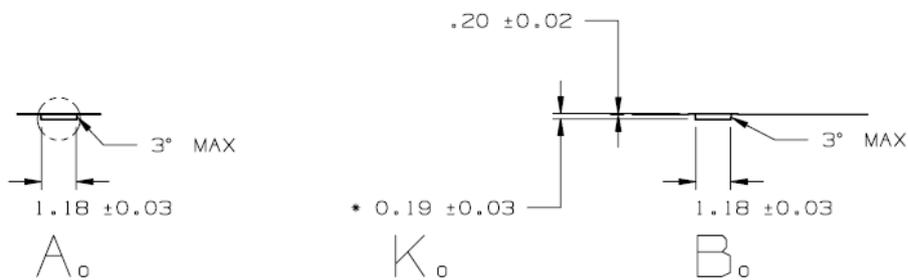
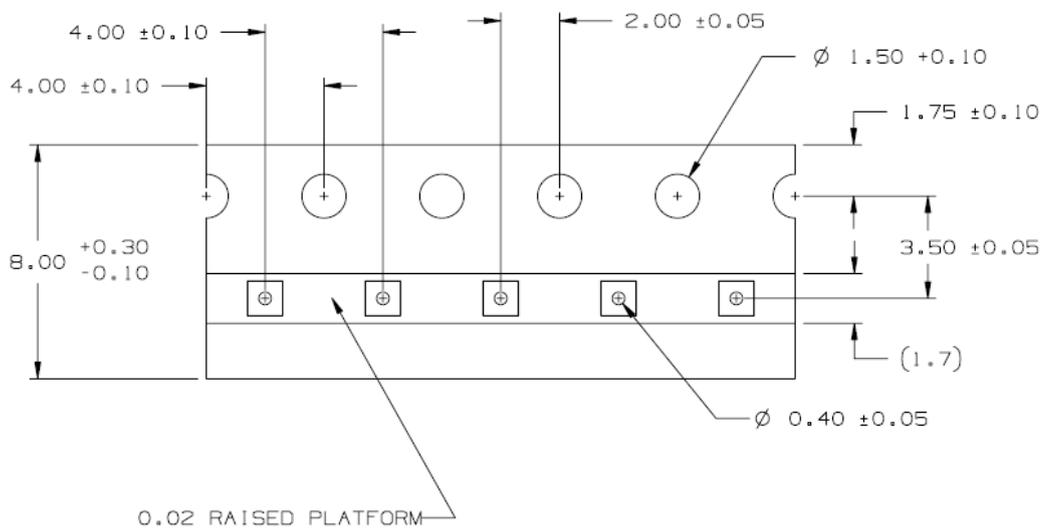
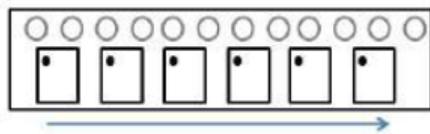
Note

- 1.Min.: Minimum dimension specified.
- 2.Max.: Maximum dimension specified.
- 3.Typ.: Type. Typical dimension specified for reference.

A. Marking Information(Product Code: A23)

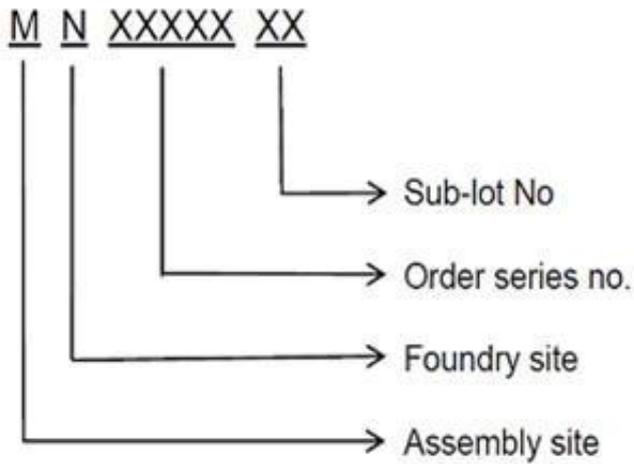


B. Tape&Reel Information : 5000pcs/Reel

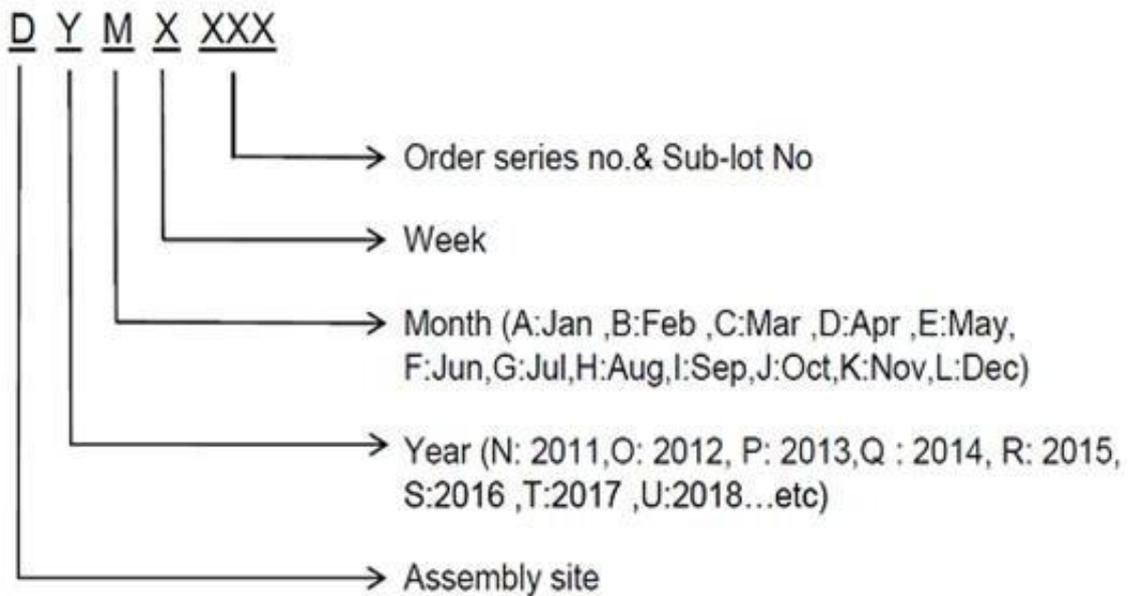


C. Lot No. & Date Code Rule

1. Lot No.



2. Date Code



D.Label rule

Label content



1	Label Size	30 * 90 mm
2	Font style	Times New Roman or Arial (或可区分英文"0"和数字"0", "G"和"Q"的字型即可)
3	U-NIKC	Height: 4 mm
4	Package	Height: 2 mm
5	Device	Height: 3 mm (Max: 16 Digit)
6	Lot	Height: 3 mm (Max: 9 Digit) Sub lot
7	D/C	Height: 3 mm (Max: 7 Digit)
8	QTY	Height: 3 mm (Max: 6 Digit) Thousand mark is no needed
9	RoHS label	 long axis: 12 mm minor axis: 6 mm bottom color: White Font color: Black Font style: Arial
10	Halogen Free label	 Diameter: 10 mm bottom color: Green Font color: Black Font style: Arial
11	Scan information	Device / Lot / D/C / QTY, Insert "/" between every parts. for example: P3055LDG/G12345601/GGG2301/2000 DPI (Dots per inch): Over 300 dpi Code : Code 128 Height: 6 mm at least

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