



ISB

(Integrated System in Board)

ISB-A27-0 — Ultrathin Miniature Package 4-channel N-channel MOSFET Array

Overview

The ISB-A27-0 is a SANYO'S original SIP (System In Package) IC that includes four N-channel MOSFET devices. They are mounted into one thin-and-small package by utilizing SANYO's high-density mounting technology, "Integrated System in Board (ISB)".

The advantage using its ultrathin miniature package makes the ISB-A27-0 ideal for switching devices in small, low-power circuits for cell phones and other portable equipment. It achieves significant reduction in the component mounting area compared to discrete device implementations (approx 25% smaller than ECSP package).

Features

- Includes 4 identical N-channel MOSFET devices in a single package.
- 1.6 mm×1.6 mm×0.75 mm ultrathin, miniature package.
- 2.5V drive capability.

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-source voltage	V _{DSS}	Common to TR1, TR2, TR3, and TR4	30	V
Gate-to-source voltage	V _{GSS}		±10	V
Drain current	I _D		0.15	A
Allowable power dissipation	P _{d max}	When mounted on a specified board *	0.33	W
Operating ambient temperature	T _{opr}		-30 to +85	°C
Storage ambient temperature	T _{stg}		-40 to +125	°C

* Specified board: 40mm×25mm×0.8mm FR4 board

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ISB-A27-0

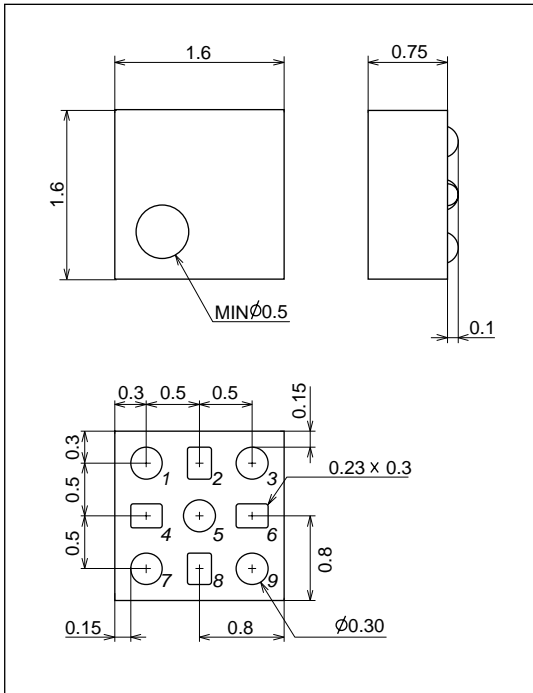
Electrical Characteristics

Overall Operating Characteristics at $T_a = 25^\circ\text{C}$, common to TR1, TR2, TR3, and TR4

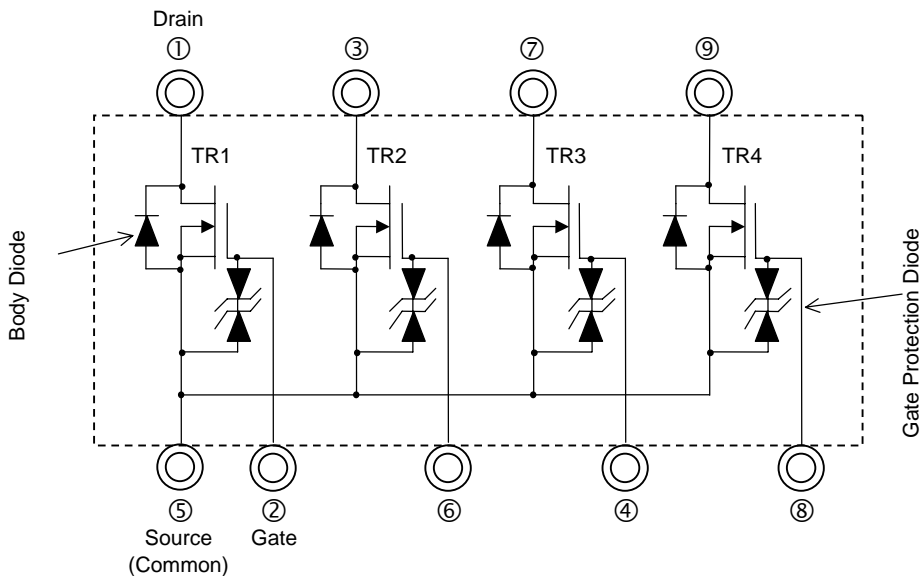
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-source breakdown voltage	V_{DSS}	$I_D=1\text{mA}$, $V_{GS}=0\text{V}$	30			V
Drain-to-source cutoff current	I_{DSS}	$V_{DS}=30\text{V}$, $V_{GS}=0\text{V}$			10	μA
Gate-to-source leakage current	I_{GSS}	$V_{GS}=\pm 8\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Gate-to-source cutoff current	$V_{GS(\text{off})}$	$V_{DS}=10\text{V}$, $I_D=100\mu\text{A}$			1.3	V
Drain-to-source on resistance	$R_{DS(\text{on})1}$	$I_D=80\text{mA}$, $V_{GS}=4\text{V}$		3.4	11	Ω
	$R_{DS(\text{on})2}$	$I_D=40\text{mA}$, $V_{GS}=2.5\text{V}$		4.2	14	Ω
	$R_{DS(\text{on})3}$	$I_D=10\text{mA}$, $V_{GS}=1.5\text{V}$		6.7	20	Ω

Package Dimensions

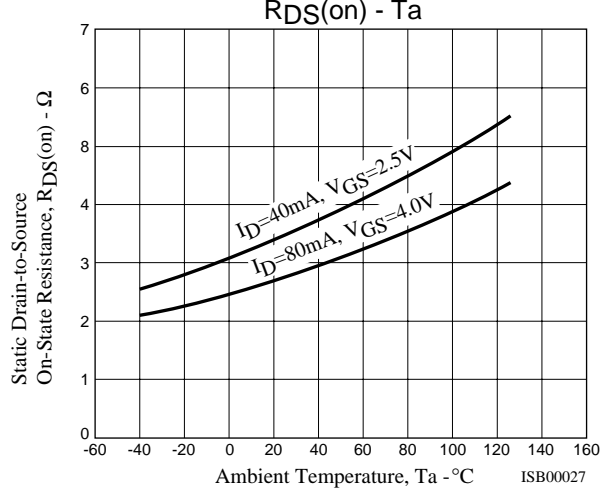
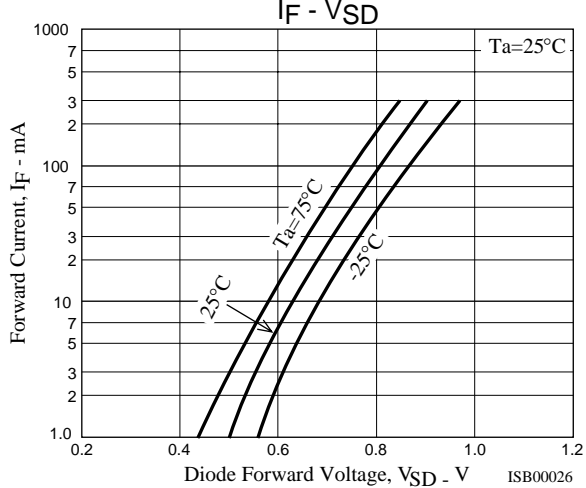
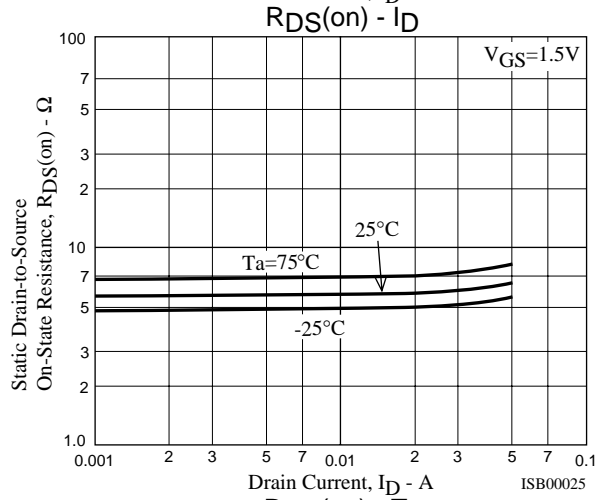
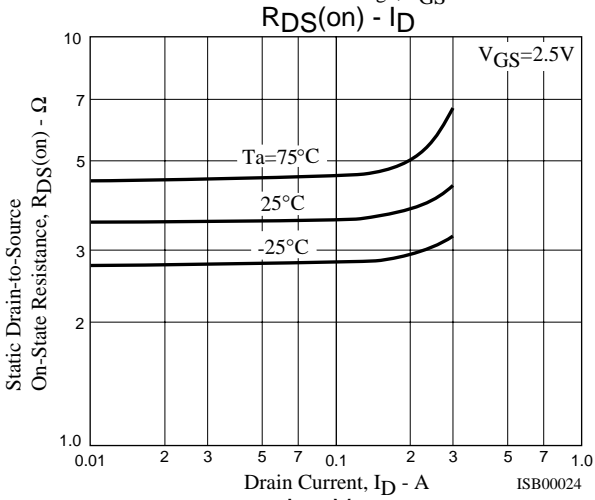
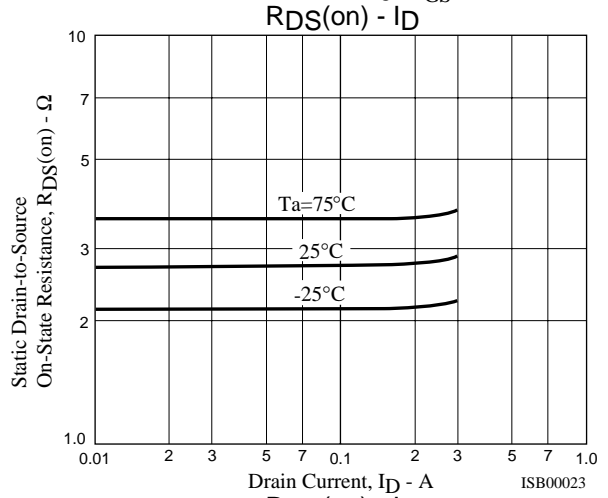
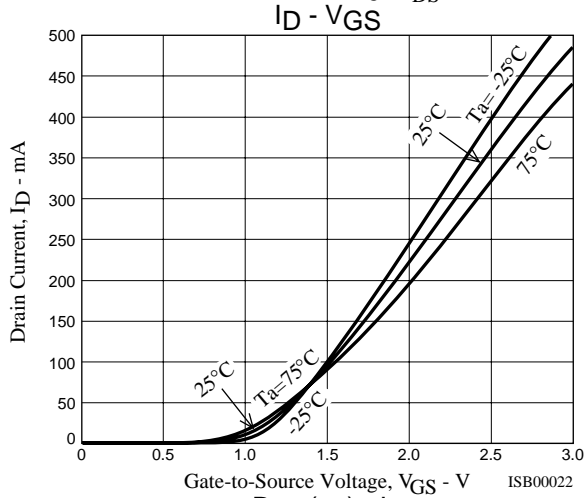
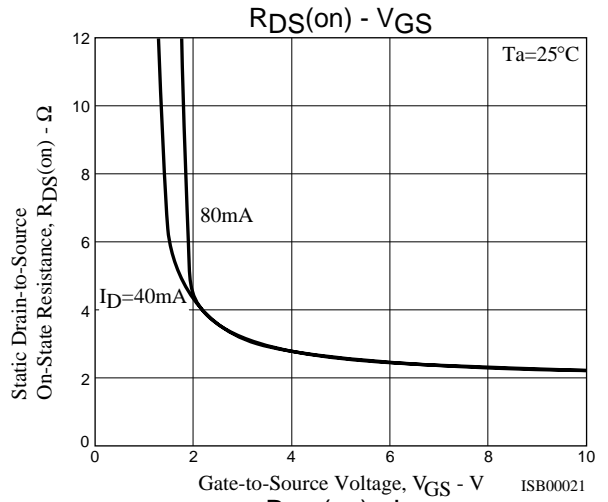
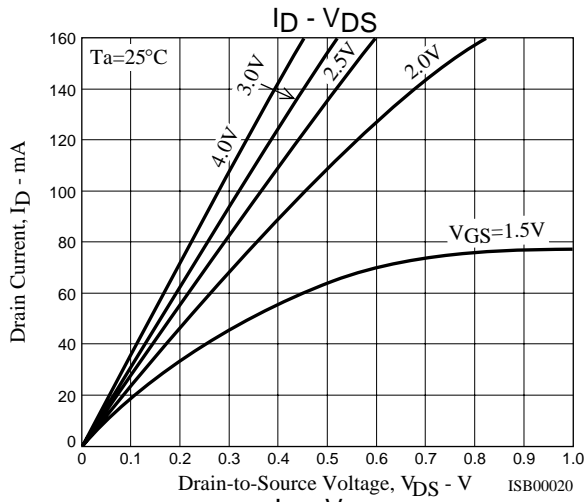
unit : mm

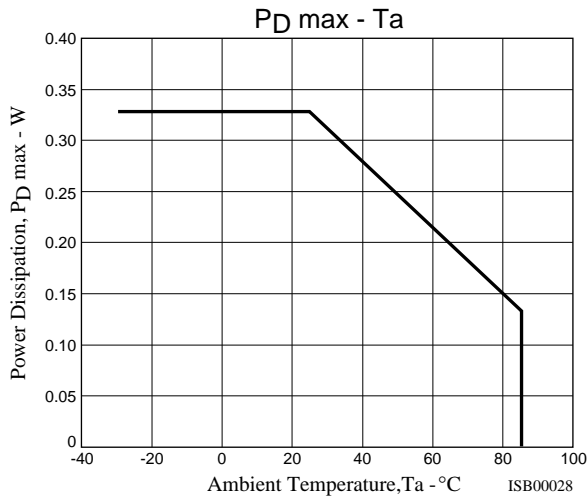


Equivalent Circuit



ISB-A27-0





<Manufactured by>

ISB Business Unit, Electronic Device Company,
Component & Device Group, SANYO Electric Co., Ltd.

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