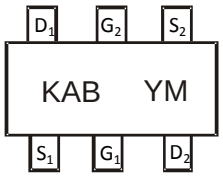
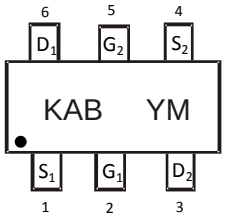
Marking Information (Note 5 & 6)

DMN5L06VK-7/-13 (Note 5)

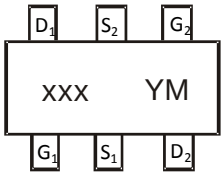


DMN5L06VK-7A/-13A (Note 6)

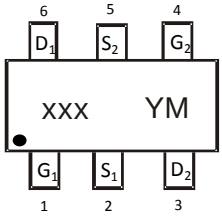


KAB= DMN5L06VK Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: E = 2017)
M = Month (ex: 9 = September)

DMN5L06VAK-7/-13 (Note 5)
DMN5010VAK-7/-13 (Note 5)



DMN5L06VAK-7A/-13A (Note 6)
DMN5010VAK-7A/-13A (Note 6)



xxx = Product Type Marking Code: KAE or KAE or KAC
YM = Date Code Marking
Y = Year (ex: E = 2017)
M = Month (ex: 9 = September)

Date Code Key

Year	2006	~	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Code	T	~	D	E	F	G	H	I	J	K	L	M

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Notes: 5. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).
6. Part number with suffix 7A and 13A designates devices marked with a Pin 1 indicator. There is no other difference between both devices.

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Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Drain Source Voltage		V_{DSS}	50	V
Drain-Gate Voltage $R_{GS} \leq 1.0M\Omega$		V_{DGR}	50	V
Gate-Source Voltage	Continuous Pulsed	V_{GSS}	±20 ±40	V
Drain Current (Note 7)	Continuous Pulsed	I_D I_{DM}	280 1.5	mA A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 7)	P_D	250	mW
Thermal Resistance, Junction to Ambient (Note 7)	$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 8)							
Drain-Source Breakdown Voltage		BV_{DSS}	50	—	—	V	V_{GS} = 0V, I_D = 10µA
Zero Gate Voltage Drain Current	@ T_C = +25°C	I_{DSS}	—	—	60	nA	V_{DS} = 50V, V_{GS} = 0V
Gate-Body Leakage		I_{GSS}	—	—	1 500 50	µA nA nA	V_{GS} = ±12V, V_{DS} = 0V V_{GS} = ±10V, V_{DS} = 0V V_{GS} = ±5V, V_{DS} = 0V
ON CHARACTERISTICS (Note 8)							
Gate Threshold Voltage	@T_J = +25°C @T_J = +0°C to +85°C (Note 9)	$V_{GS(TH)}$	0.49 0.30	—	1.0 1.2	V	V_{DS} = V_{GS}, I_D = 250µA
Static Drain-Source On-Resistance		$R_{DS(ON)}$	— — —	— — —	3.0 2.5 2.0	Ω	V_{GS} = 1.8V, I_D = 50mA V_{GS} = 2.5V, I_D = 50mA V_{GS} = 5.0V, I_D = 50mA
On-State Drain Current		$I_{D(ON)}$	0.5	1.4	—	A	V_{GS} = 10V, V_{DS} = 7.5V
Forward Transconductance		$\|Y_{fs}\|$	200	—	—	mS	V_{DS} =10V, I_D = 0.2A
Source-Drain Diode Forward Voltage		V_{SD}	0.5	—	1.4	V	V_{GS} = 0V, I_S = 115mA
DYNAMIC CHARACTERISTICS (Note 9)							
Input Capacitance		C_{iss}	—	—	50	pF	V_{DS} = 25V, V_{GS} = 0V f = 1.0MHz
Output Capacitance		C_{oss}	—	—	25	pF	
Reverse Transfer Capacitance		C_{rss}	—	—	5.0	pF	

Notes: 7. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.
8. Short duration pulse test used to minimize self-heating effect.
9. Guaranteed by design. Not subject to product testing.

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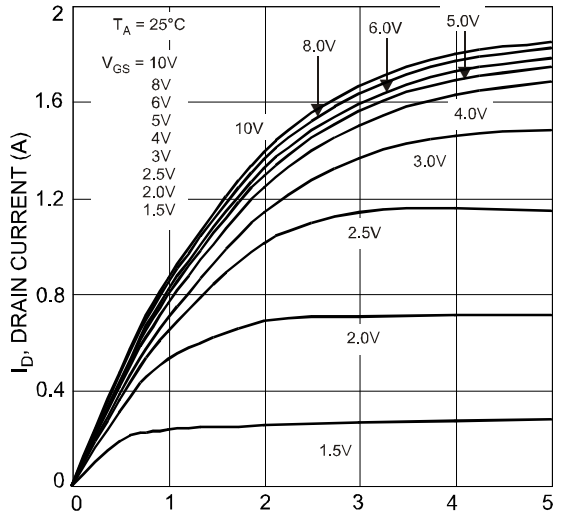

Fig. 1 Typical Output Characteristics

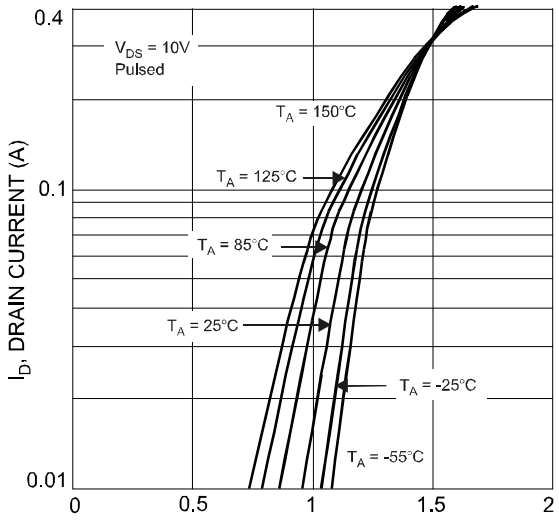

Fig. 2 Typical Transfer Characteristics

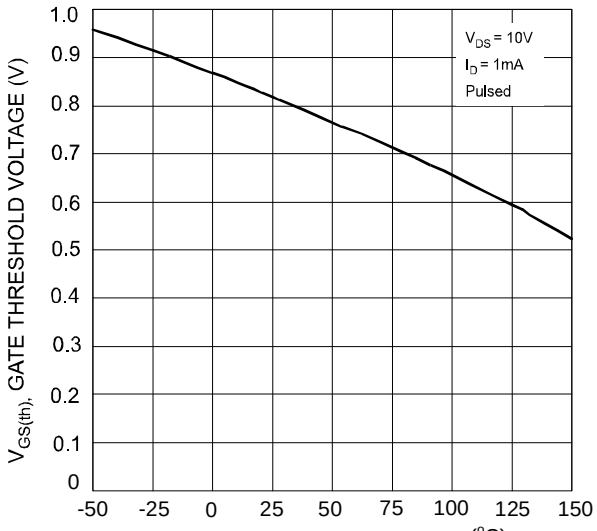

Fig. 3 Gate Threshold Voltage vs. Channel Temperature

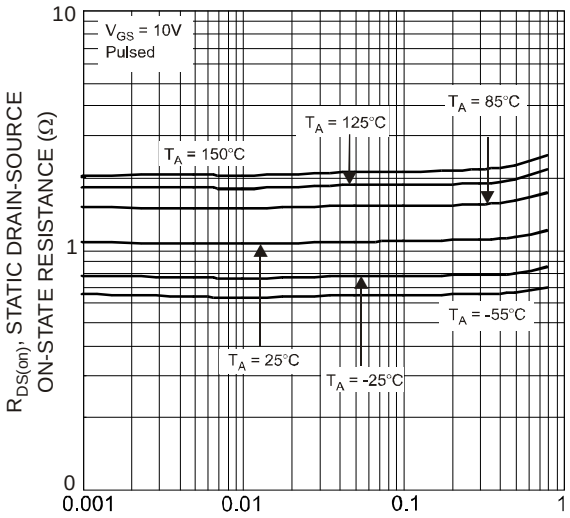

Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

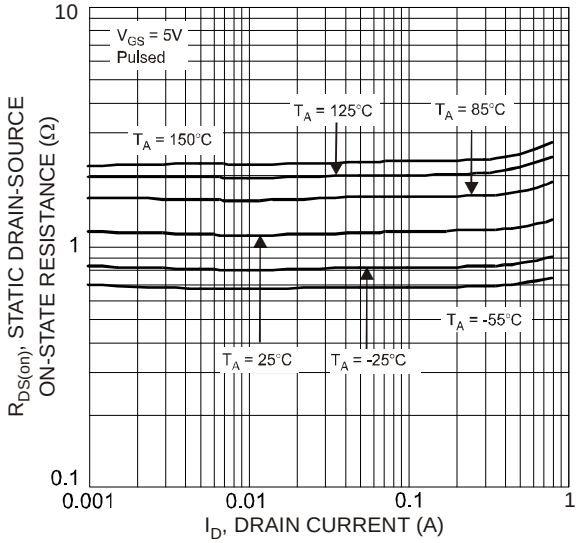

Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

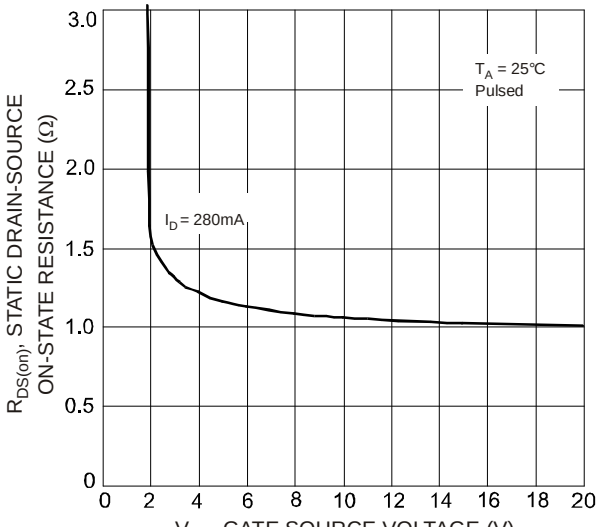

Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

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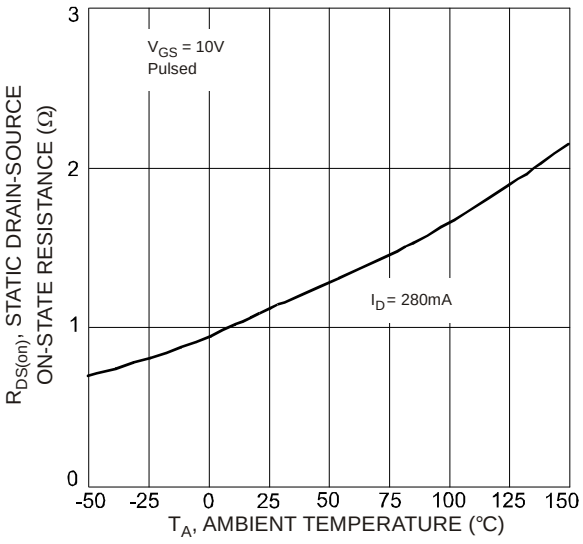

Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

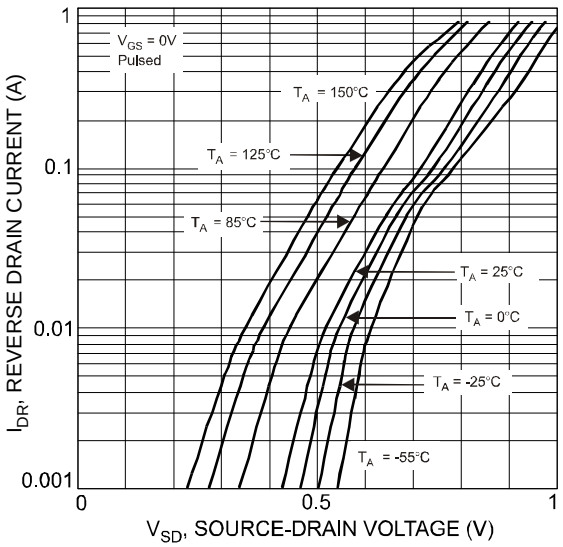

Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

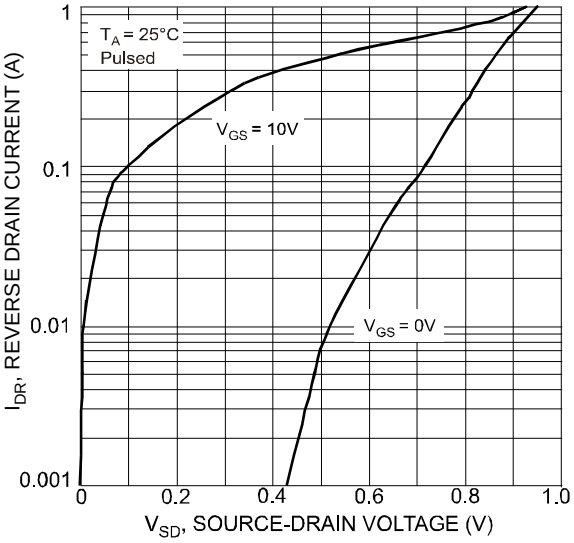

Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

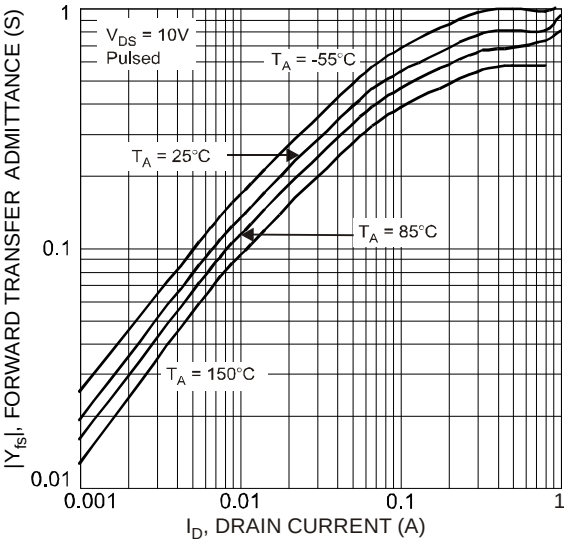

Fig.10 Forward Transfer Admittance vs. Drain Current

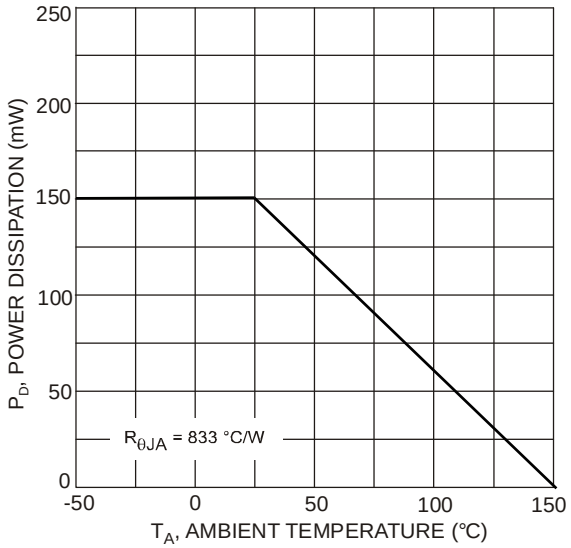

Fig. 11 Derating Curve - Total

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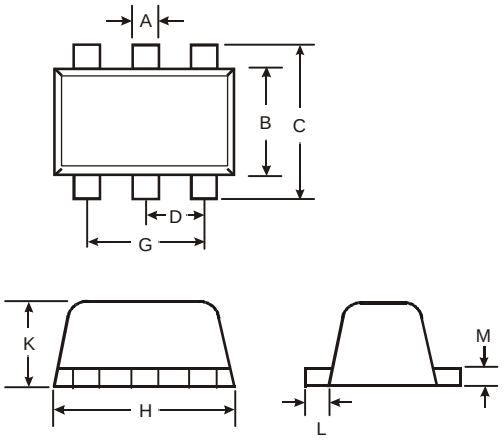
Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT563

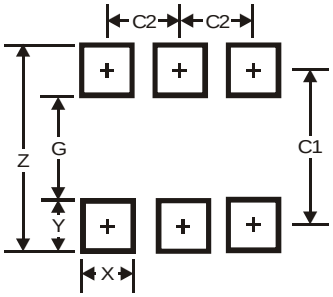


SOT563			
Dim	**Min**	**Max**	**Typ**
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	-	-	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT563



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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