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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 1)						
Drain-Source Breakdown Voltage	BV_{DSS}	50	—	—	V	V_{GS} = 0V, I_D = 250μA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	10	μA	V_{DS} = 50V, V_{GS} = 0V
Gate-Body Leakage	I_{GSS}	—	—	1.0 5.0	μA	V_{GS} = ±8V, V_{DS} = 0V V_{GS} = ±12V, V_{DS} = 0V
ON CHARACTERISTICS (Note 1)						
Gate Threshold Voltage	$V_{GS(th)}$	0.7	0.8	1.0	V	V_{DS} = V_{GS}, I_D = 250μA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	3.1	4	Ω	V_{GS} = 4V, I_D = 100mA
		—	4	5		V_{GS} = 2.5V, I_D = 80mA
Forward Transconductance	g_{FS}	180	—	—	ms	V_{DS} = 10V, I_D = 100mA, f = 1.0kHz
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	25	—	pF	V_{DS} = 10V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	—	5	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	2.1	—	pF	

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage (Note 5)	$V_{(BR)CBO}$	-50	—	—	V	I_C = 10μA, I_B = 0
Collector-Emitter Breakdown Voltage (Note 5)	$V_{(BR)CEO}$	-45	—	—	V	I_C = 10mA, I_B = 0
Emitter-Base Breakdown Voltage (Note 5)	$V_{(BR)EBO}$	-5	—	—	V	I_E = 1μA, I_C = 0
DC Current Gain (Note 5)	h_{FE}	220	290	475	—	V_{CE} = -5.0V, I_C = -2.0mA
Collector-Emitter Saturation Voltage (Note 5)	$V_{CE(SAT)}$	—	— —	-100 -400	mV	I_C = -10mA, I_B = -0.5mA I_C = -100mA, I_B = -5.0mA
Base-Emitter Saturation Voltage (Note 5)	$V_{BE(SAT)}$	— —	-700 -900	— —	mV	I_C = -10mA, I_B = -0.5mA I_C = -100mA, I_B = -5.0mA
Base-Emitter Voltage (Note 5)	$V_{BE(ON)}$	-600 —	— —	-750 -820	mV	V_{CE} = -5.0V, I_C = -2.0mA V_{CE} = -5.0V, I_C = -10mA
Collector-Cutoff Current (Note 5)	I_{CBO}	— —	— —	-15 -4.0	nA μA	V_{CB} = -30V V_{CB} = -30V, T_A = +150°C
Collector-Emitter Cut-Off Current (Note 5)	I_{CES}	—	—	-100	nA	V_{CE} = -45V
Gain Bandwidth Product	f_T	100	—	—	MHz	V_{CE} = -5.0V, I_C = -10mA, f = 100MHz
Output Capacitance	C_{OB}	—	—	4.5	pF	V_{CB} = -10V, f = 1.0MHz
Noise Figure	NF	—	—	10	dB	I_C = -0.2mA, V_{CE} = -5.0Vdc, R_S = 2.0kΩ, f = 1.0kHz, BW = 200Hz

Notes: 5. Short duration pulse test used to minimize self-heating effect.

MOSFET

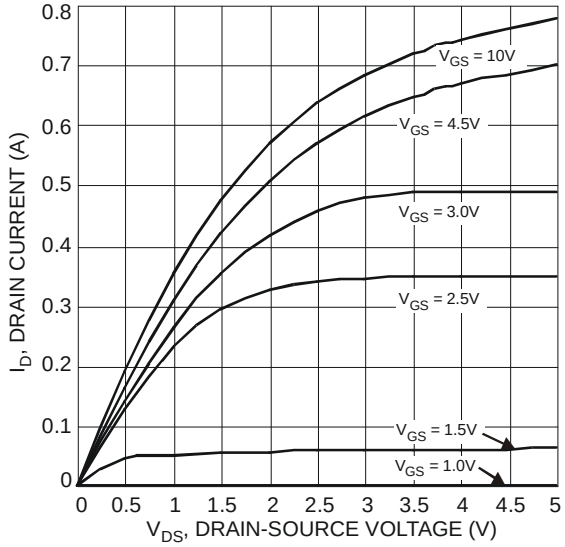


Fig. 1 Typical Output Characteristics

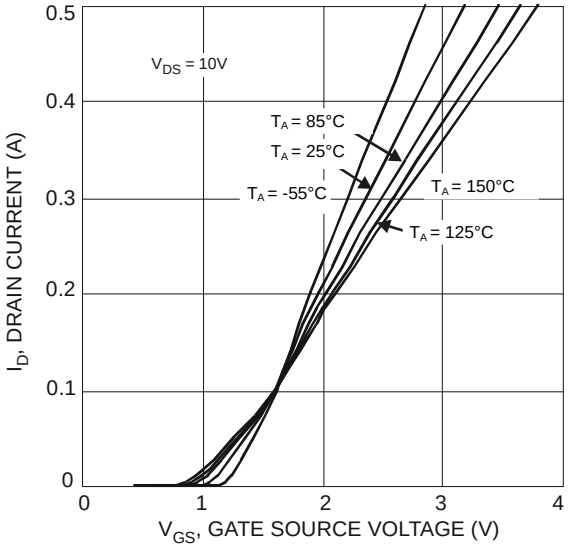


Fig. 2 Typical Transfer Characteristics

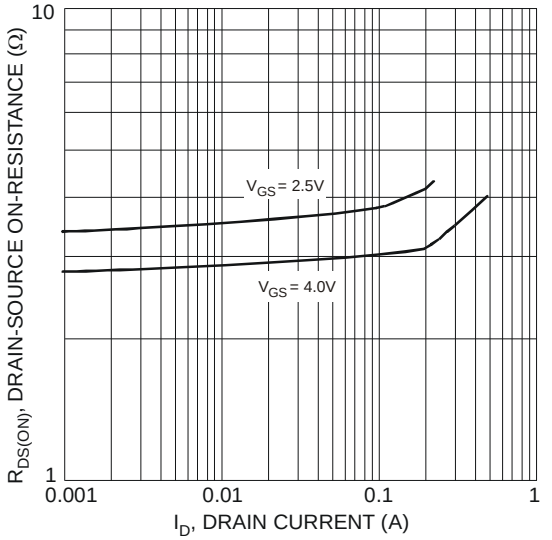


Fig. 3 Typical On-Resistance
vs. Drain Current and Gate Voltage

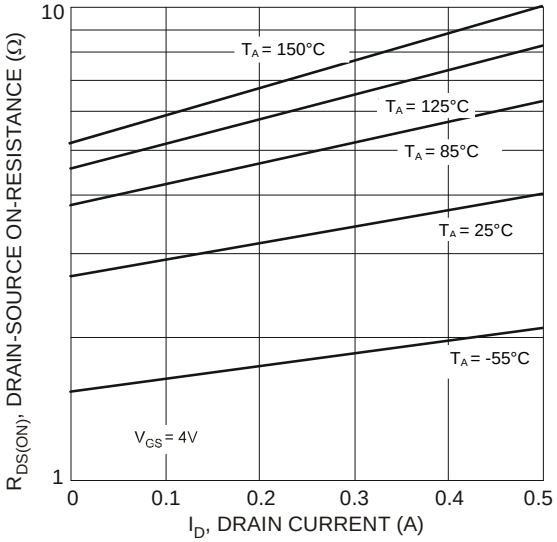


Fig. 4 Typical Drain-Source On-Resistance
vs. Drain Current and Temperature

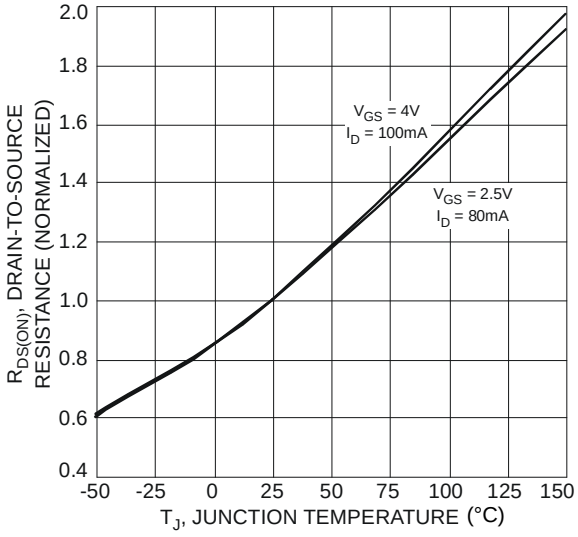


Fig. 5 On-Resistance Variation with Temperature

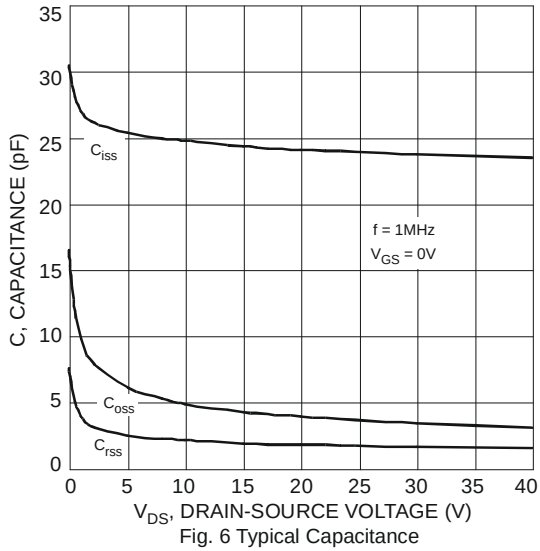


Fig. 6 Typical Capacitance

MOSFET (continued)

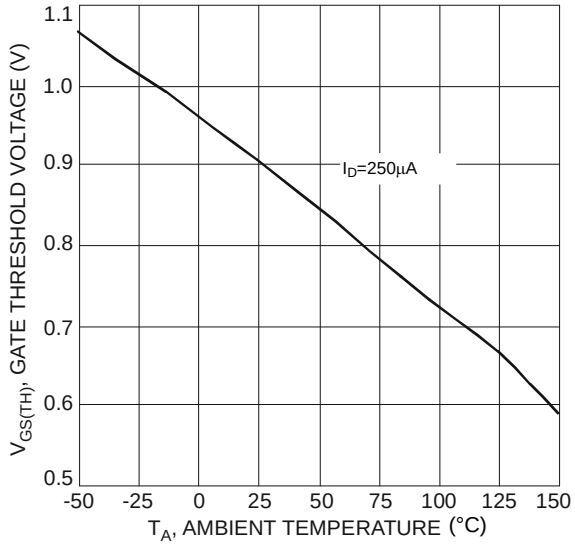


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

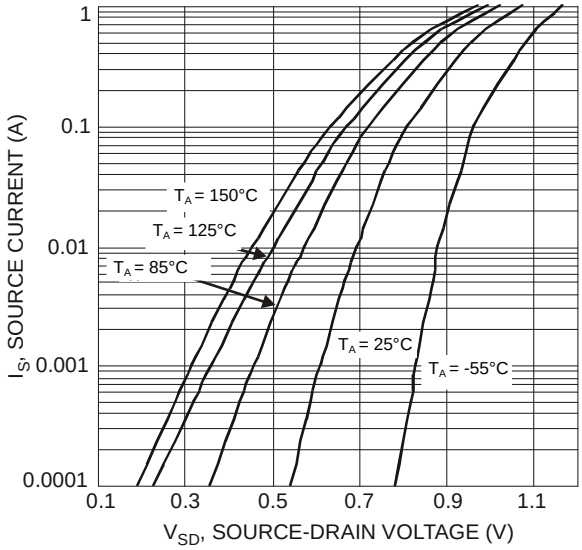


Fig. 8 Diode Forward Voltage vs. Current

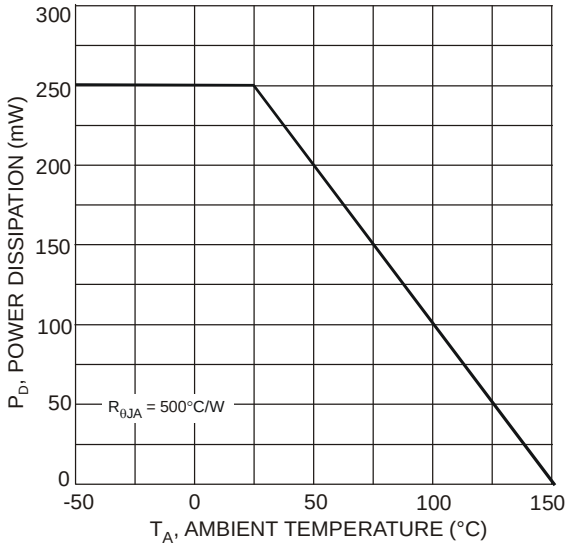


Fig. 9 Derating Curve - Total Package Power Dissipation

PNP Transistor

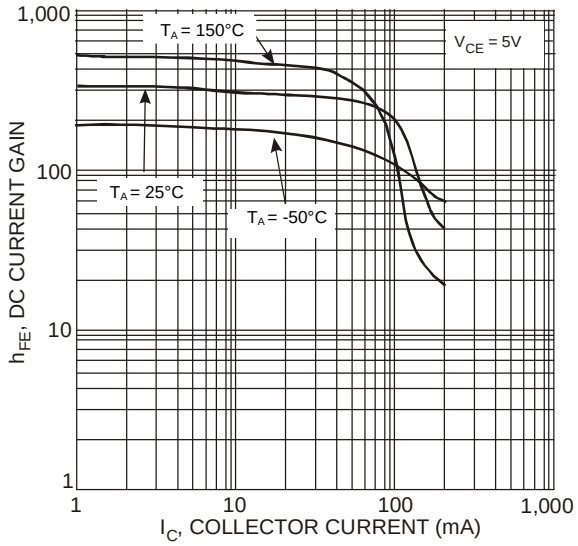


Fig. 10 Typical DC Current Gain vs. Collector Current

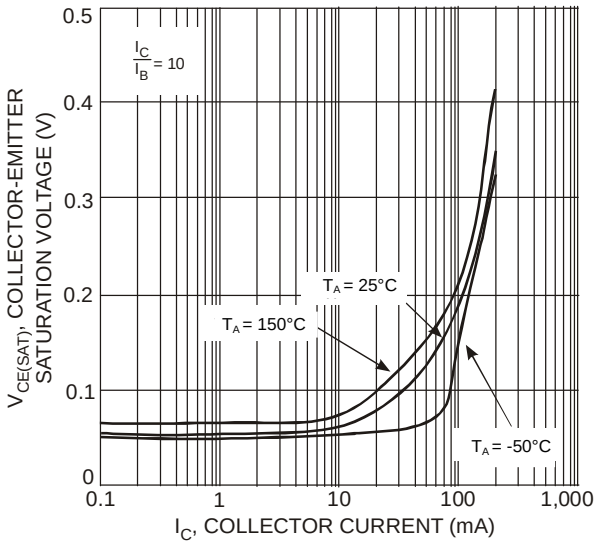


Fig. 11 Collector-Emitter Saturation Voltage vs. Collector Current

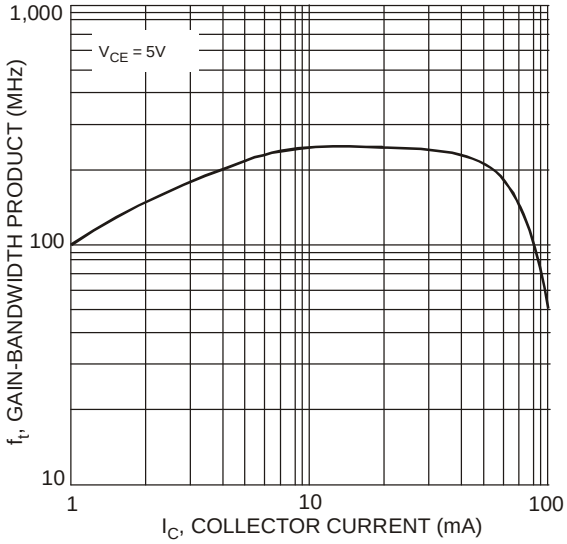


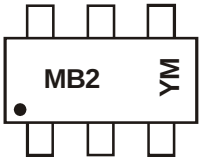
Fig. 12 Typical Gain-Bandwidth Product vs. Collector Current

Ordering Information (Note 6)

Part Number	Case	Packaging
DMB54D0UDW-7	SOT-363	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



MB2 = Marking Code
YM = Date Code Marking
Y = Year (ex: V = 2008)
M = Month (ex: 9 = September)

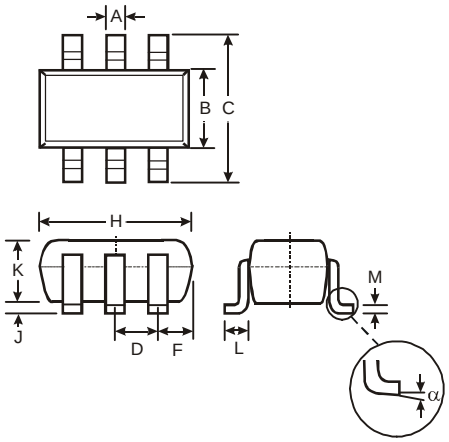
Date Code Key

Year	2008	2009	2010	2011	2012	2013	2014	2015
Code	V	W	X	Y	Z	A	B	C

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

Package Outline Dimensions

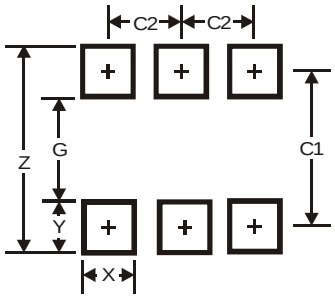
Please see http://www.diodes.com/package-outlines.html for the latest version.



SOT-363		
Dim	**Min**	**Max**
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Typ	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout

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



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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