Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	20	——	——	V	V_{GS} = 0V, I_D = 250µA
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient	——	0.016	——	V/°C	Reference to 25°C, I_D = 1mA
$R_{DS(on)}$	Static Drain-to-Source On-Resistance	——	——	0.030	Ω	V_{GS} = 4.5V, I_D = 6.5A ②
		——	——	0.045		V_{GS} = 2.5V, I_D = 5.2A ②
$V_{GS(th)}$	Gate Threshold Voltage	0.60	——	1.2	V	V_{DS} = V_{GS}, I_D = 250µA
g_{fs}	Forward Transconductance	13	——	——	S	V_{DS} = 10V, I_D = 6.5A
I_{DSS}	Drain-to-Source Leakage Current	——	——	1.0	µA	V_{DS} = 16V, V_{GS} = 0V
		——	——	25		V_{DS} = 16V, V_{GS} = 0V, T_J = 70°C
I_{GSS}	Gate-to-Source Forward Leakage	——	——	-100	nA	V_{GS} = -12V
	Gate-to-Source Reverse Leakage	——	——	100		V_{GS} = 12V
Q_g	Total Gate Charge	——	15	22	nC	I_D = 6.5A
Q_{gs}	Gate-to-Source Charge	——	2.2	3.3		V_{DS} = 10V
Q_{gd}	Gate-to-Drain ("Miller") Charge	——	3.5	5.3		V_{GS} = 5.0V ②
$t_{d(on)}$	Turn-On Delay Time	——	8.5	——	ns	V_{DD} = 10V
t_r	Rise Time	——	11	——		I_D = 1.0A
$t_{d(off)}$	Turn-Off Delay Time	——	36	——		R_G = 6.0Ω
t_f	Fall Time	——	16	——		R_D = 10Ω ②
C_{iss}	Input Capacitance	——	1310	——	pF	V_{GS} = 0V
C_{oss}	Output Capacitance	——	150	——		V_{DS} = 15V
C_{rss}	Reverse Transfer Capacitance	——	36	——		f = 1.0MHz

Source-Drain Ratings and Characteristics

	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)	——	——	2.0	A	MOSFET symbol showing the integral reverse p-n junction diode.
I_{SM}	Pulsed Source Current (Body Diode) ①	——	——	20		
V_{SD}	Diode Forward Voltage	——	——	1.2	V	T_J = 25°C, I_S = 1.7A, V_{GS} = 0V ②
t_{rr}	Reverse Recovery Time	——	19	29	ns	T_J = 25°C, I_F = 1.7A
Q_{rr}	Reverse Recovery Charge	——	13	20	nC	di/dt = 100A/µs ②

Notes:

① Repetitive rating; pulse width limited by max. junction temperature. (See fig. 11)

② Pulse width ≤ 400µs; duty cycle ≤ 2%.

③ Surface mounted on FR-4 board, t ≤ 5sec.

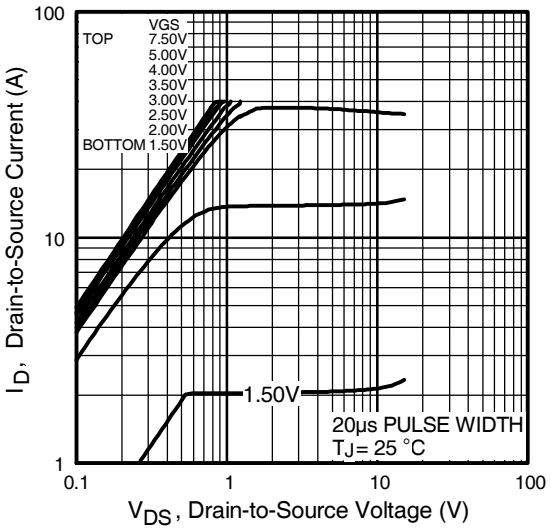


Fig 1. Typical Output Characteristics

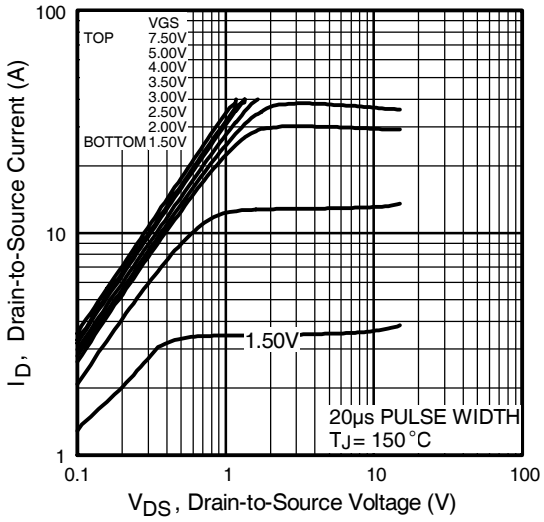


Fig 2. Typical Output Characteristics

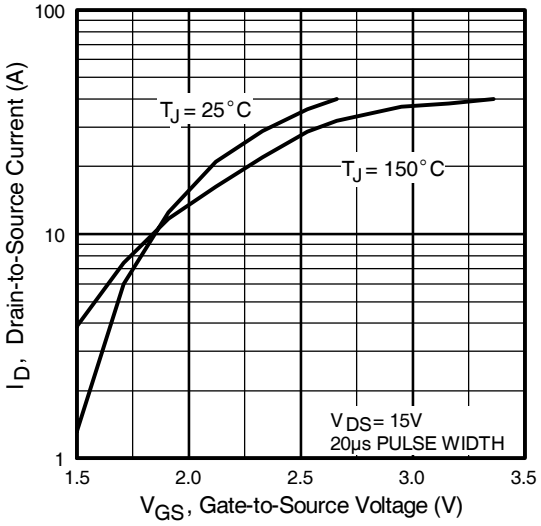


Fig 3. Typical Transfer Characteristics

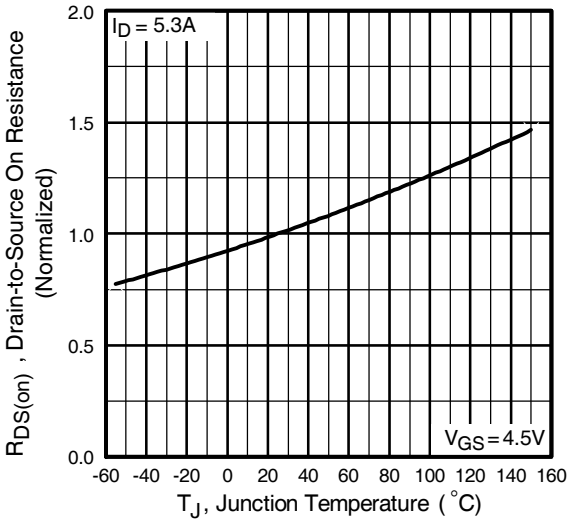


Fig 4. Normalized On-Resistance Vs. Temperature

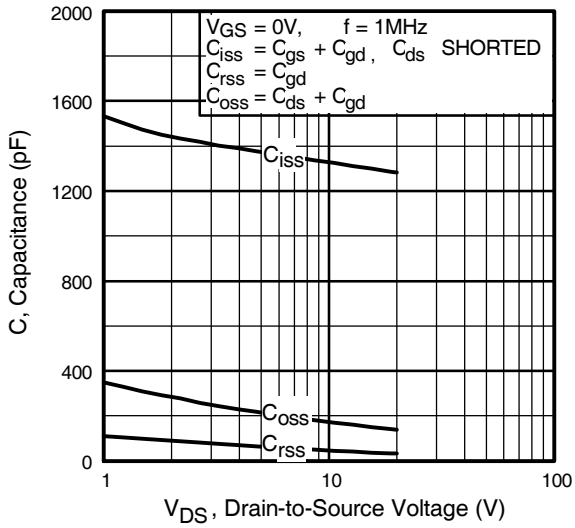


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

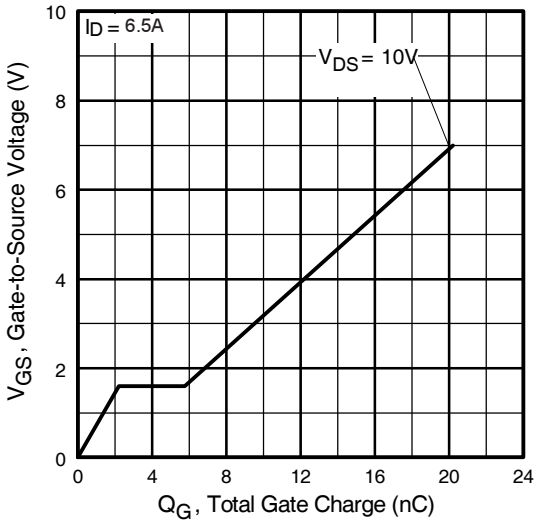


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

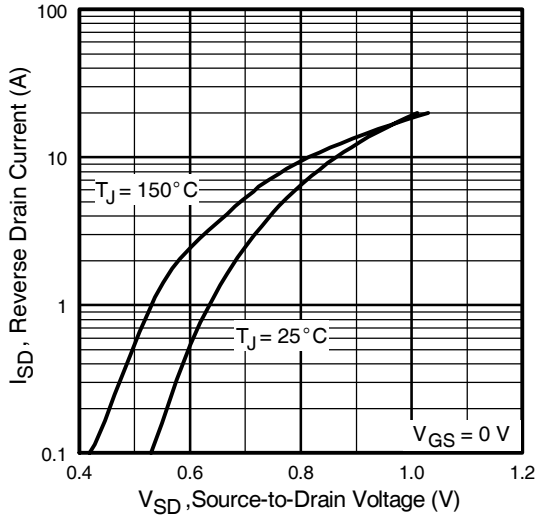


Fig 7. Typical Source-Drain Diode Forward Voltage

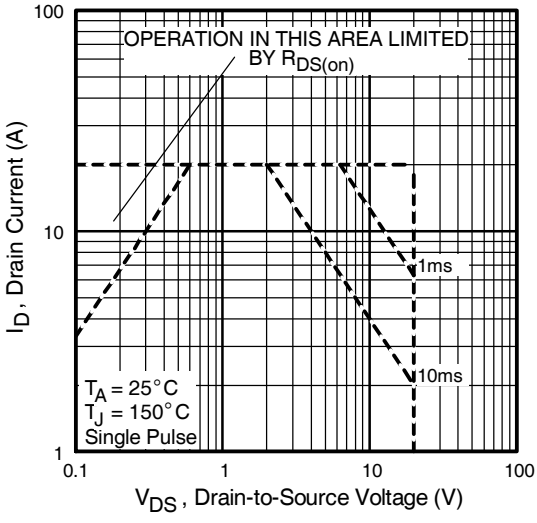


Fig 8. Maximum Safe Operating Area

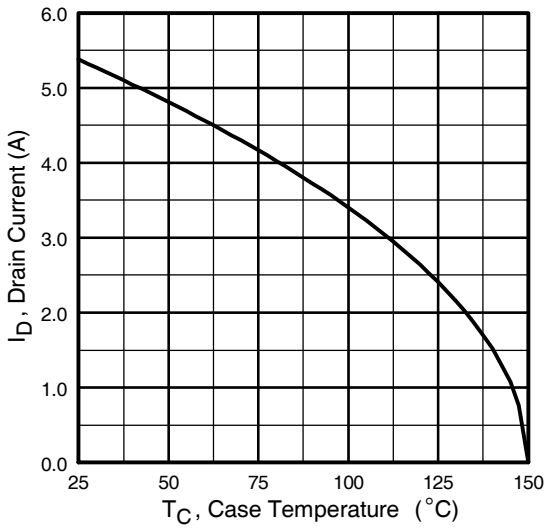


Fig 9. Maximum Drain Current Vs. Case Temperature

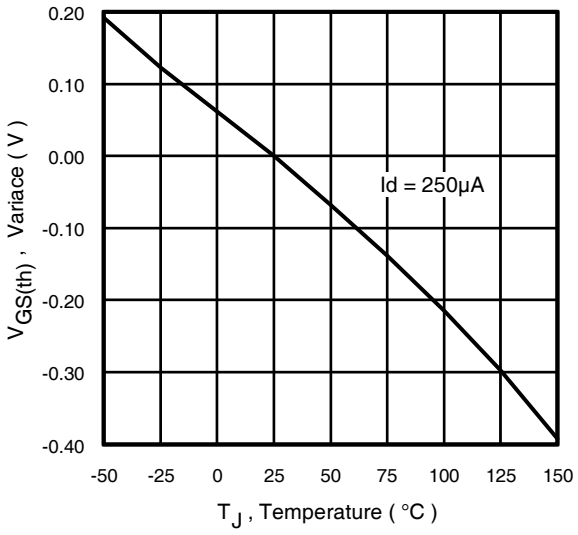


Fig 10. Typical Vgs(th) Variance Vs. Juction Temperature

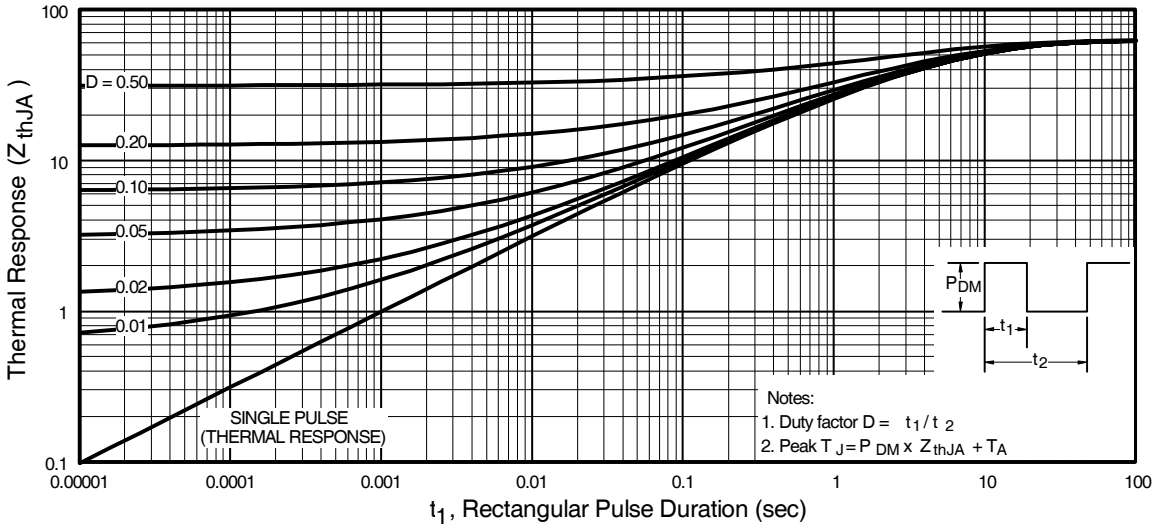


Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

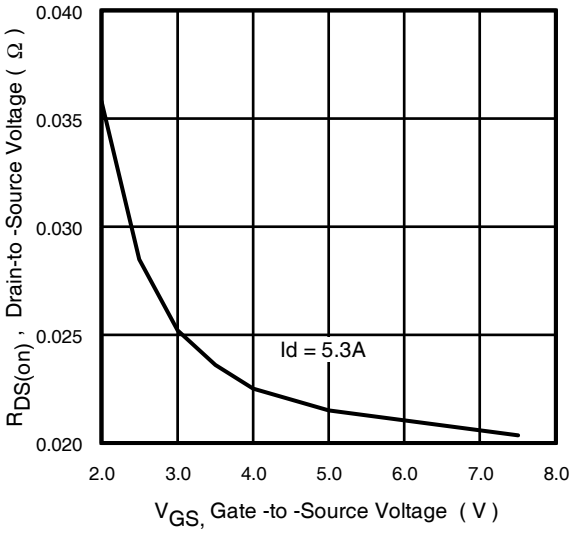


Fig 12. Typical On-Resistance Vs. Gate Voltage

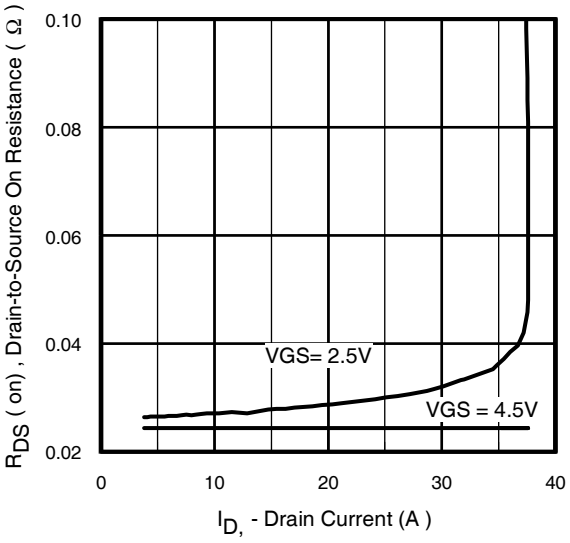
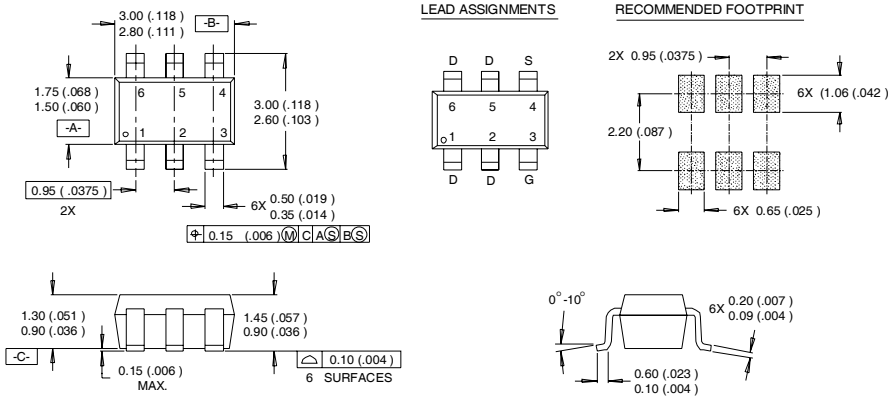


Fig 13. Typical On-Resistance Vs. Drain Current

Micro6 (SOT23 6L) Package Outline

Dimensions are shown in milimeters (inches)



NOTES :
1. DIMENSIONING & TOLERANCING PER ANSI Y14.5M-1982.
2. CONTROLLING DIMENSION : MILLIMETER.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).

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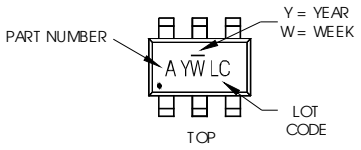
Micro6 (SOT23 6L) Part Marking Information



PART NUMBER CODE REFERENCE:

A = IRLMS1902
B = IRLMS1503
C = IRLMS6702
D = IRLMS5703
E = IRLMS6802
F = IRLMS4502
G = IRLMS2002
H = IRLMS6803

Note: A line above the work week
(as shown here) indicates Lead-Free.

W = (1-26) IF PRECEDED BY LAST DIGIT OF CALENDAR YEAR

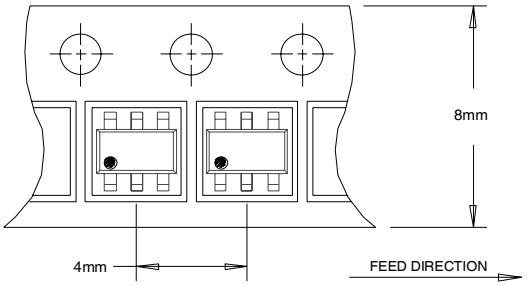
YEAR	Y	WORK WEEK	W
2001	1	01	A
2002	2	02	B
2003	3	03	C
2004	4	04	D
2005	5		
2006	6		
2007	7		
2008	8		
2009	9		
2010	0	24	X
		25	Y
		26	Z

W = (27-52) IF PRECEDED BY A LETTER

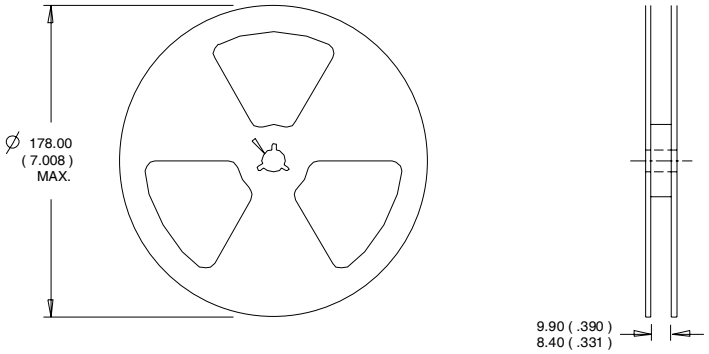
YEAR	Y	WORK WEEK	W
2001	A	27	A
2002	B	28	B
2003	C	29	C
2004	D	30	D
2005	E		
2006	F		
2007	G		
2008	H		
2009	J		
2010	K	50	X
		51	Y
		52	Z

Micro6 Tape & Reel Information

Dimensions are shown in milimeters (inches)



NOTES :
1. OUTLINE CONFORMS TO EIA-481 & EIA-541.



NOTES:
1. CONTROLLING DIMENSION : MILLIMETER.
2. OUTLINE CONFORMS TO EIA-481 & EIA-541.

This product has been designed and qualified for the consumer market.
Qualification Standards can be found on IR's Web site.
Data and specifications subject to change without notice.

International
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