

PRODUCT CHARACTERISTICS

V_{DS}	100V
$R_{DS(ON)}$ Typ(@ $V_{GS}=10V$)	24 m Ω
$R_{DS(ON)}$ Typ(@ $V_{GS}=4.5V$)	32 m Ω
ID	18.9A

APPLICATIONS

- Portable Equipment and Battery Powered systems.
- Power Management in Notebook Computer

FEATURES

- Lower $R_{DS(ON)}$ to Minimize Conduction Losses
- Reliable and Rugged
- ROHS Compliant & Halogen-Free
- 100% UIS and Rg Tested

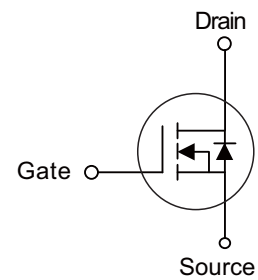
ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT1532C	TO-251	70 pieces/Tube
N/A	MOT1532D	TO-252	2500 pieces/Reel

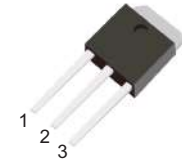
ABSOLUTE MAXIMUM RATINGS ($T_J=25^{\circ}C$ Unless Otherwise Noted)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current	$T_C=25^{\circ}C$	I_D	18.9
	$T_C=100^{\circ}C$	I_D	12
Plused Drain Current	I_{DM}	76	A
Avalanche Energy	E_{AS}	120	mJ
Power Dissipation	P_D	24	W
Junction Temperature	T_J	+150	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^{\circ}C$

Symbol



TO-252



TO-251

■ ELECTRICAL CHARACTERISTICS (T = 25°C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static parameters						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 250\mu A, V_{GS} = 0V$	100	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$	-	-	1.0	μA
		$T_J = 55^\circ C$	-	-	5.0	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	-	3	V
Static Drain-Source ON-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 10A$	-	24	32	m Ω
		$V_{GS} = 4.5V, I_D = 6A$	-	32	42	m Ω
Forward Transconductance	g_{FS}	$V_{DS} = 5V, I_D = 10A$	-	-	-	S
Diode Forward Voltage	V_{SD}	$I_S = 1A, V_{GS} = 0V$	-	0.7	1	V
Diode Continuous Current	I_S	$T_C = 25^\circ C$	-	-	24	A
Dynamic parameters						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 20V, f = 1MHz$	-	850	-	pF
Output Capacitance	C_{oss}		-	400	-	pF
Reverse Transfer Capacitance	C_{rss}		-	20	-	pF
Gate Resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$	-	2.6	-	Ω
Switching parameters						
Total Gate Charge (@ $V_{GS} = 10V$)	Q_g	$V_{GS} = 0 \text{ to } 10V$ $V_{DS} = 50V, I_D = 10A$	-	6.8	-	nC
Total Gate Charge (@ $V_{GS} = 4.5V$)	Q_g		-	3.7	-	nC
Gate Source Charge	Q_{gs}		-	1.0	-	nC
Gate Drain Charge	Q_{gd}		-	1.8	-	nC
Turn-On DelayTime	$t_{D(on)}$	$V_{GS} = 10V, V_{DS} = 50V$ $R_L = 5.0\Omega, R_{GEN} = 6\Omega$	-	4.9	-	ns
Turn-On Rise Time	t_r		-	16.6	-	ns
Turn-Off DelayTime	$t_{D(off)}$		-	11.2	-	ns
Turn-Off Fall Time	t_f		-	4.9	-	ns
Body Diode Reverse Recovery Time	t_{rr}	$I_F = 10A, dI_F/dt = 100A/\mu s$	-	33	-	ns
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F = 10A, dI_F/dt = 100A/\mu s$	-	45	-	nC

■ TYPICAL CHARACTERISTICS

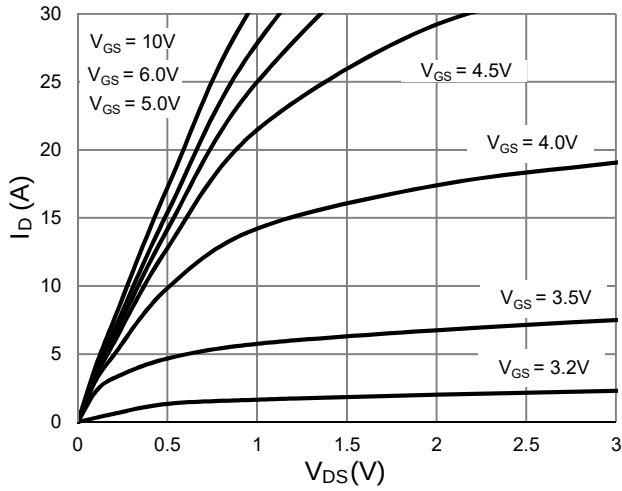


Figure 1: Saturation characteristics

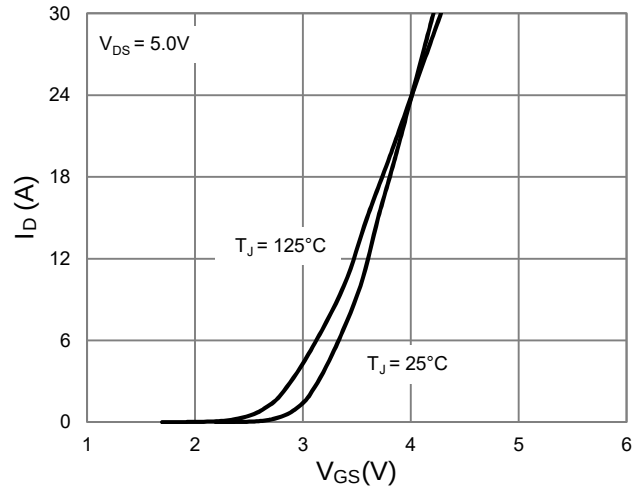


Figure 2: Transfer characteristics

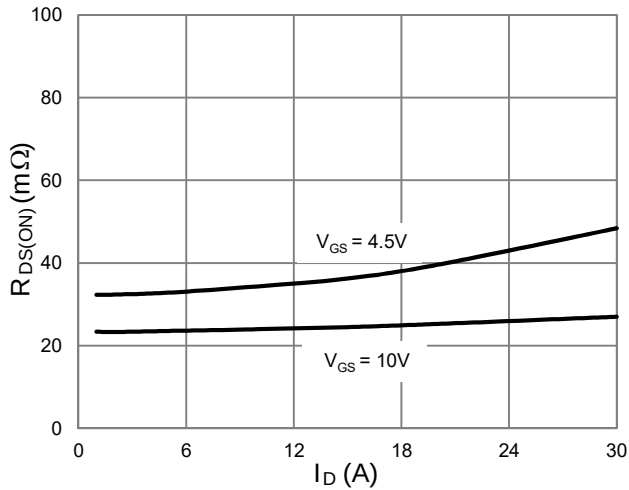


Figure 3: Rds(on) vs. drain current

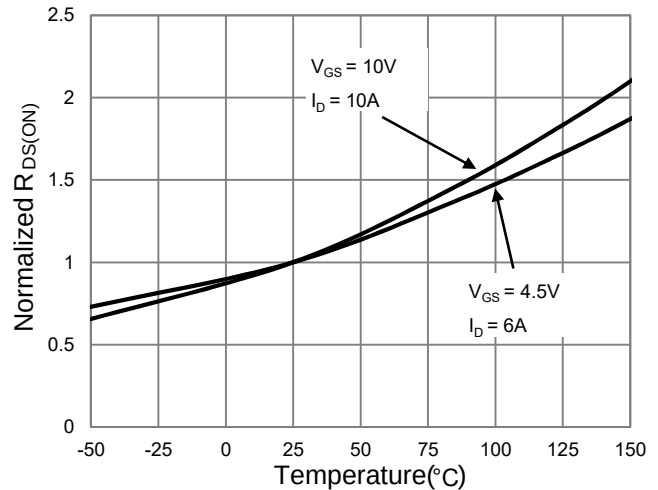


Figure 4: Rds(on) vs. junction temperature

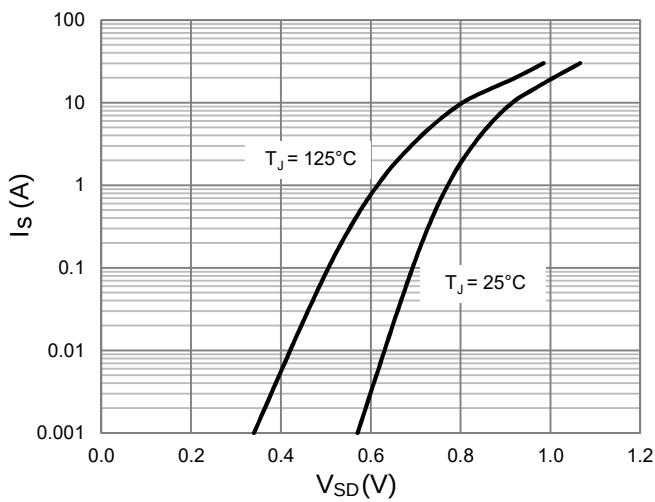


Figure 5: Body-diode characteristics

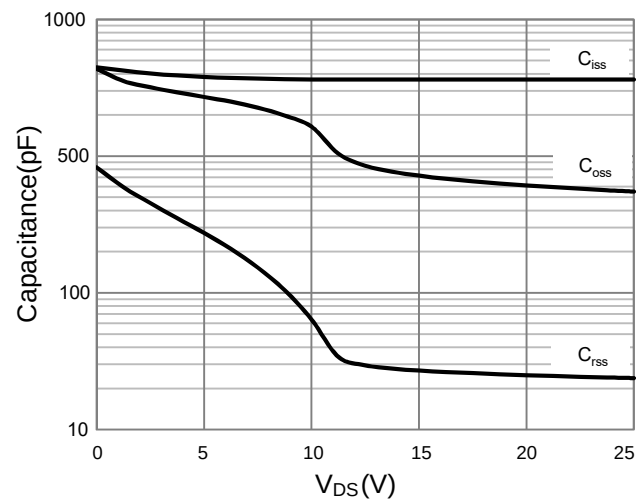


Figure 6: Capacitance characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

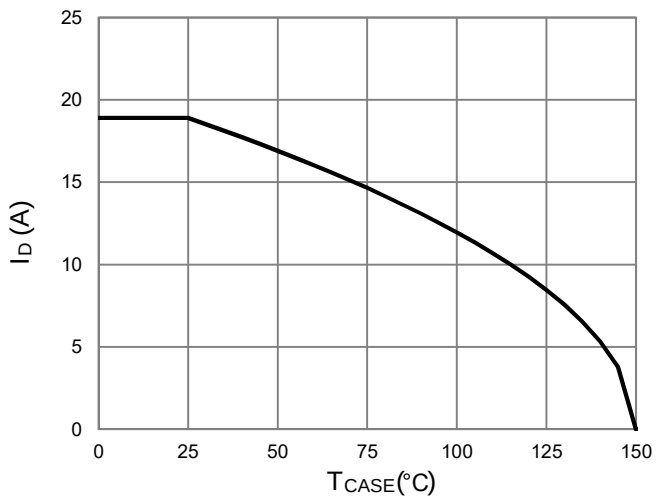


Figure 7: Current derating

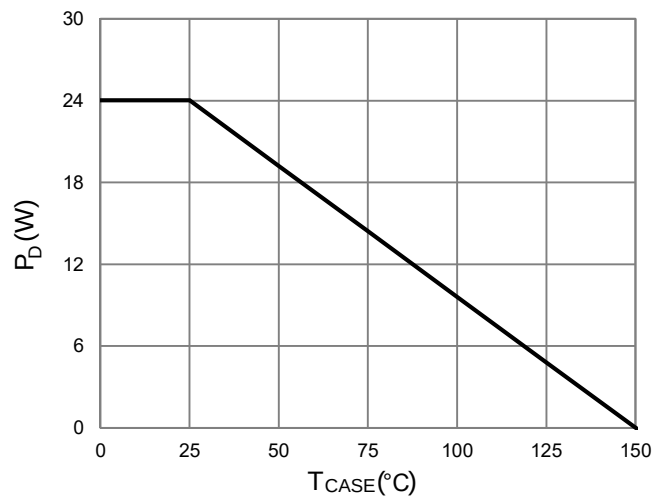


Figure 8: Power derating

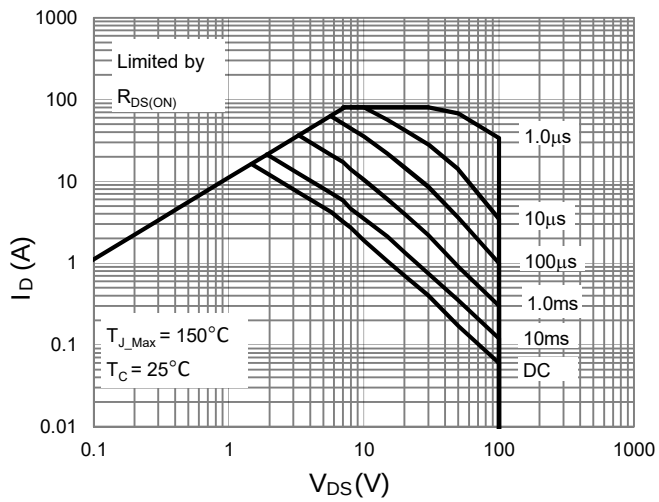


Figure 9: Maximum safe operating area

Technical drawing of a mechanical part, showing two views: a front view (left) and a top view (right).

Front View (Left):

- Total height: 11.2 ± 0.2
- Top flange width: 2.3 ± 0.1
- Top flange thickness: $1.062^{+0.35}_{-0.1}$
- Top flange offset: 0.5
- Base width: $0.5^{+0.1}_0$
- Base height: 4.0 ± 0.3
- Angle: 7.0°

Top View (Right):

- Width: 5.33 ± 0.20
- Depth: 6.1 ± 0.1
- Central hole diameter: $\phi 1.2 \pm 0.1$
- Top flange thickness: $1.0^{+0.15}_{-0.05}$
- Top flange offset: $0.05^{+0.15}_{-0.03}$
- Top flange radius: $R1.428$
- Side flange thickness: 1.78 ± 0.2
- Side flange offset: 0.840 ± 0.1
- Side flange width: 2.286
- Side flange height: 4.0 ± 0.2
- Side flange offset: $0.76^{+0.10}_{-0.02}$
- Side flange radius: $R1.428$

Technical drawings of a mechanical part, showing front and side views with dimensions.

Front View (Left):

- Overall width: 5.33 ± 0.20
- Overall height: 6.1 ± 0.1
- Top left corner radius: $R1.98$
- Top left vertical dimension: 1.0 ± 0.15
- Top left horizontal dimension: 0.05 ± 0.05
- Top right vertical dimension: 1.78 ± 0.2
- Bottom left vertical dimension: 0.8 ± 0.2
- Bottom left horizontal dimension: $0.76 \begin{smallmatrix} +0.10 \\ -0.02 \end{smallmatrix}$
- Bottom center horizontal dimension: 2.286
- Bottom right horizontal dimension: 0.840 ± 0.1
- Central circular feature with a crosshair.
- Dimension $1.2 \begin{smallmatrix} +0.10 \\ -0.05 \end{smallmatrix}$ points to the central feature.

Side View (Right):

- Overall width: 10.2 ± 0.3
- Overall height: 1.65
- Top left vertical dimension: $1.062 \begin{smallmatrix} +0.35 \\ -0.1 \end{smallmatrix}$
- Top right horizontal dimension: 2.3 ± 0.15
- Top right vertical dimension: 0.5
- Internal horizontal dimension: 0.5
- Internal vertical dimension: $0 \sim 0.5$
- Bottom left vertical dimension: 3.1 ± 0.3
- Bottom left horizontal dimension: $0.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$
- Bottom right horizontal dimension: $0 \sim 0.15$
- Bottom right vertical dimension: $0 \sim 0.5$

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFETs](#) category:

Click to view products by [MOT](#) manufacturer:

Other Similar products are found below :

[MCH3443-TL-E](#) [MCH6422-TL-E](#) [NTNS3A92PZT5G](#) [IRFD120](#) [2SK2464-TL-E](#) [2SK3818-DL-E](#) [2SJ277-DL-E](#) [2SK2267\(Q\)](#) [MIC4420CM-TR](#) [IRFS350](#) [IPS70R2K0CEAKMA1](#) [AON6932A](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [SCM040600](#) [NTE2384](#) [2N7000TA](#) [DMN2080UCB4-7](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#) [DMN13M9UCA6-7](#) [STU7N60DM2](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#) [2N7002W-G](#) [MCQ7328-TP](#) [IPB45P03P4L11ATMA2](#) [BXP4N65F](#) [BXP2N20L](#) [BXP2N65D](#) [TSM60NB380CP](#) [ROG](#) [SLF10N65ABV2](#) [IRF9395MTRPBF](#) [FCMT080N65S3](#) [NTD5C632NLT4G](#) [NTMFS0D55N03CGT1G](#) [NTMFS1D15N03CGT1G](#) [NTMTS0D4N04CTXG](#) [NTMYS2D1N04CLTWG](#) [NVD360N65S3T4G](#) [NVD5C464NLT4G](#) [NVMTS001N06CLTXG](#) [NVMTS1D1N04CTXG](#)