Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	1.6Ω@10V	340mA
	1.8Ω@4.5V	
-60V	4.2Ω@-10V	-130mA
	4.5Ω@-4.5V	

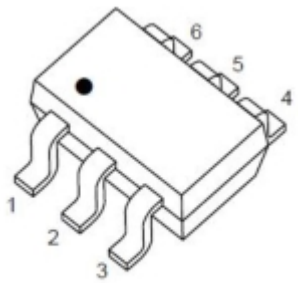
Feature

- Complimentary Pairs
- Low On-Resistance
- Low Gate Threshold Voltage
- Fast Switching
- ESD protected Gate HBM 2KV

Application

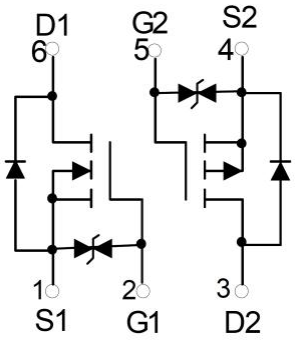
- Switching Power Supplies
- Hand-Held Computer,PDAS

Package

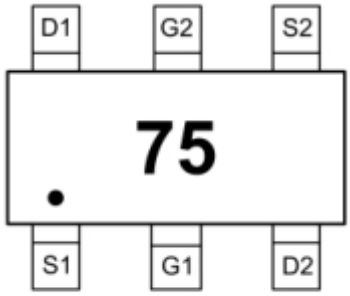


SOT-363

Circuit diagram



Marking



75 =Device Code

Maximum Ratings-Total Device

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	0.15	mW
Storage Temperature	T_{STG}	-55~ +150	℃

Maximum Ratings - N-Channel Q1

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	340	mA

Maximum Ratings - P-Channel Q1

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	130	mA

Thermal Characteristics

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	℃/W

Electrical characteristics - N-Channel Q1

(T_A=25℃, unless otherwise noted)

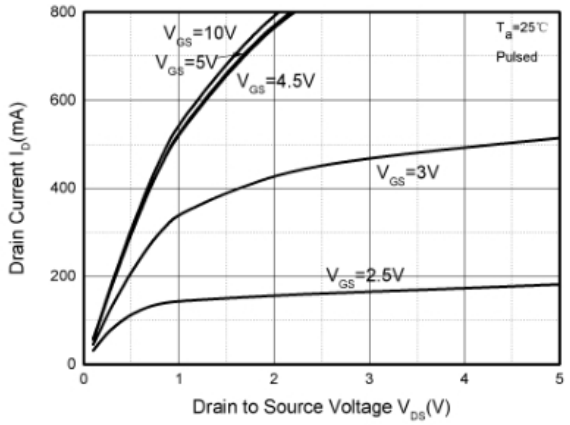
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =48V, V_{GS} = 0V			1	uA
Gate-Body Leakage Current	I_{GSS}	V_{GS} =±30V, V_{DS} = 0V			±10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1	1.6	2.5	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =250mA		1.6	3	Ω
		V_{GS} =4.5V, I_D =250mA		1.8	4	
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHz		28		pF
Output capacitance	C_{oss}			9		
Reverse transfer capacitance	C_{rss}			2		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=30V, R_L=150Ω, I_D =200mA, V_{GEN} =10V, R_G=10Ω		8.5		nS
Turn-on Rise Time	T_r			6		
Turn-Off Delay Time	$T_{d(off)}$			31.8		
Turn-Off Fall Time	t_f			15.5		
Source-Drain Diode Characteristics						
Diode Forward Voltage		I_S=200mA, V_{GS}=0V		0.82	1.3	V

Electrical characteristics - P-Channel Q2

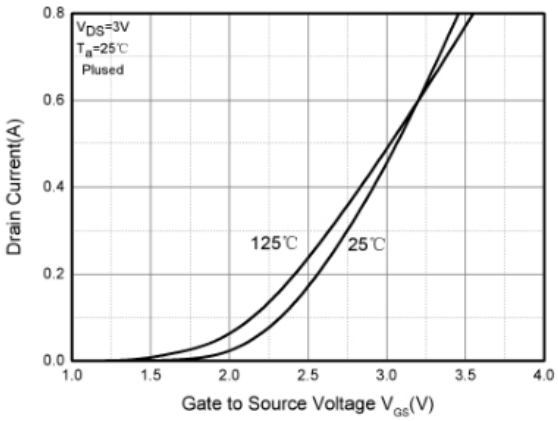
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-48V, V_{GS} = 0V			-1	uA
Gate-Body Leakage Current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1.0	-1.8	-2.5	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-0.1A		4.2	6	Ω
		V_{GS} =-4.5V, I_D =-0.1A		4.5	7	
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=-5V, V_{GS}=0V, f=1MHz		30		pF
Output capacitance	C_{oss}			10		
Reverse transfer capacitance	C_{rss}			5		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=-15V, R_L=50Ω, , I_D =-2.5A		2.5		nS
Turn-on Rise Time	T_r			1		
Turn-Off Delay Time	$T_{d(off)}$			16		
Turn-Off Fall Time	t_f			8		
Source-Drain Diode Characteristics						
Diode Forward Voltage)	V_{SD}	I_S=-0.5A, V_{GS}=0V			-1.3	V

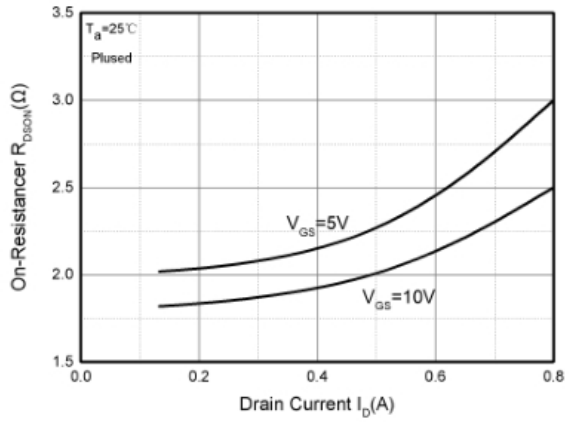
Typical Characteristics - N-Channel Q1



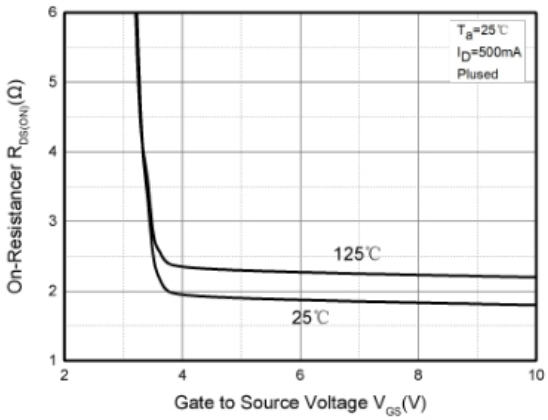
Output Characteristics



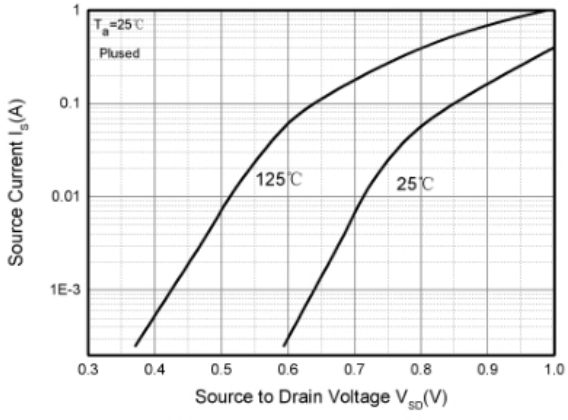
Transfer Characteristics



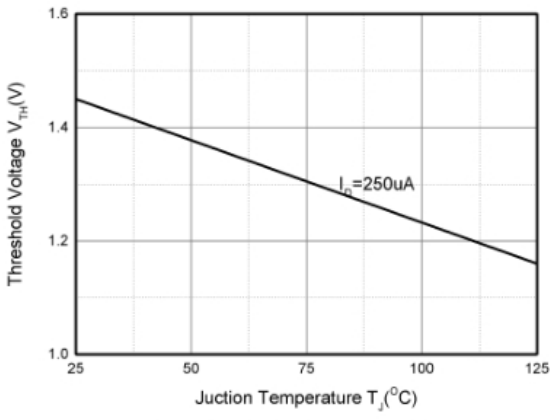
On-Resistance vs. Drain current



On-Resistance vs. Gate to Source Voltage

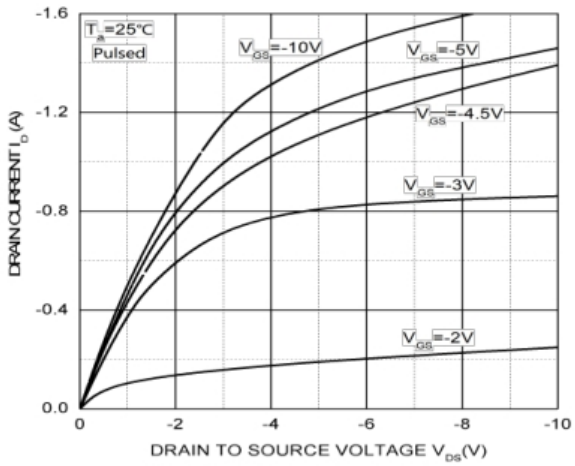


Source Current vs. Source to Drain Voltage

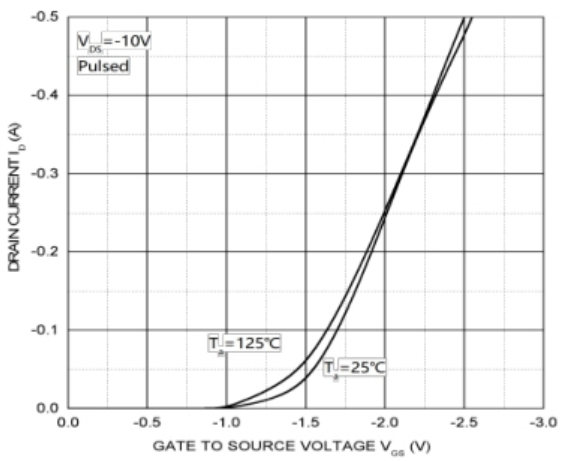


Threshold voltage vs. Junction temperature

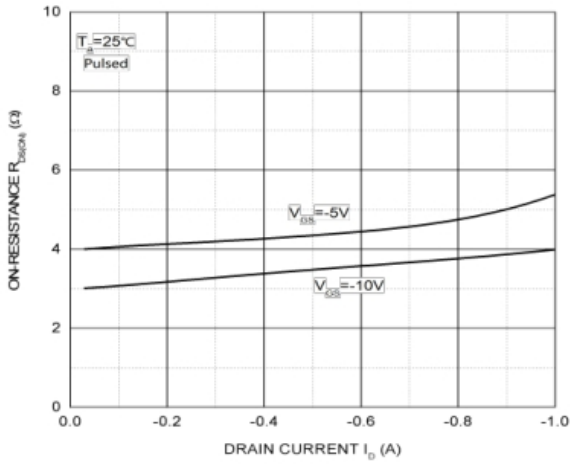
Typical Characteristics - P-Channel Q2



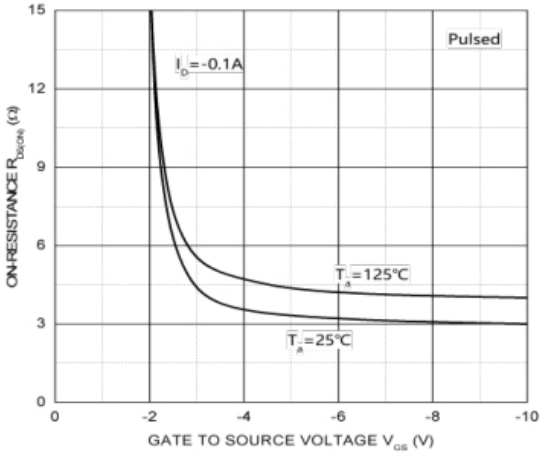
Output Characteristics



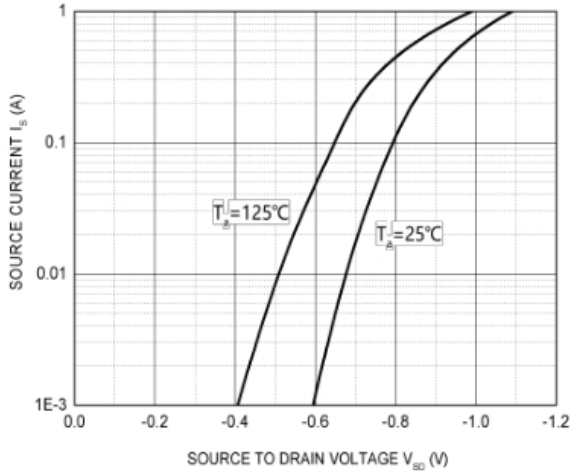
Transfer Characteristics



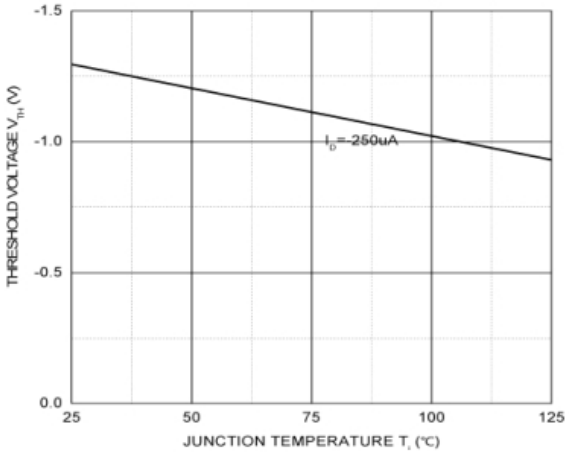
$R_{DS(ON)}$ vs. I_D



$R_{DS(ON)}$ vs. V_{GS}

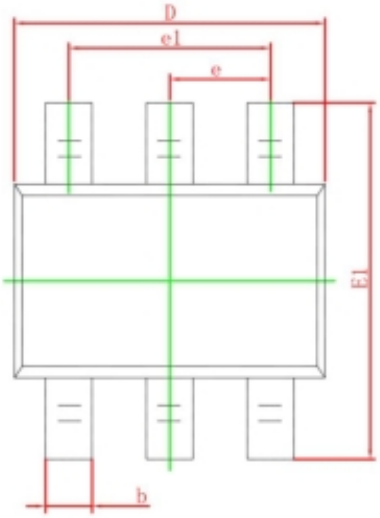


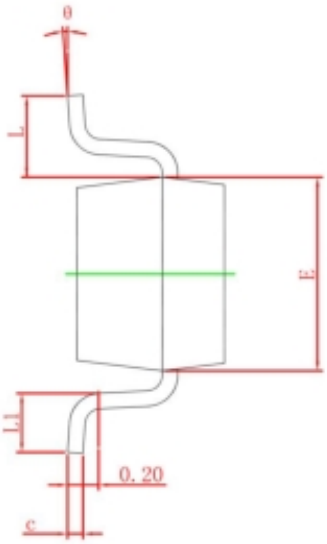
I_S vs. V_{SD}

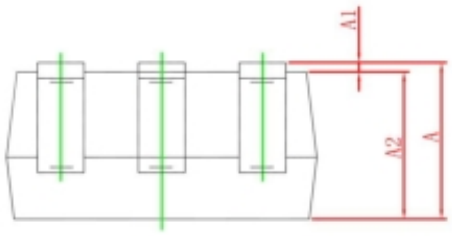


Threshold Voltage

SOT-363 Package Information







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°