

## Features

- Trench Power MV MOSFET Technology
- Voltage Controlled Small Signal Switch
- Low Input Capacitance
- Fast Switching Speed
- Low Input / Output Leakage
- ESD Protected up to 2KV (HBM)
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

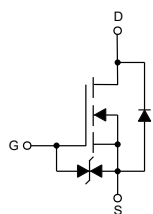
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 357°C/W Junction to Ambient<sup>(2)</sup>

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	340	mA
Pulsed Drain Current <sup>(3)</sup>	$I_{DM}$	1.5	A
Total Power Dissipation	$P_D$	350	mW

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.
3. Pulse Test: Pulse Width ≤ 300us, Duty cycle ≤ 2%.

## Internal Structure

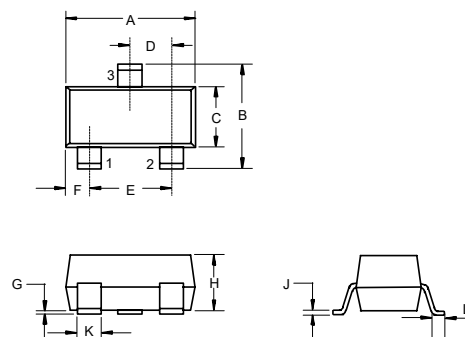


1. GATE
2. SOURCE
3. DRAIN

Marking: 72KC

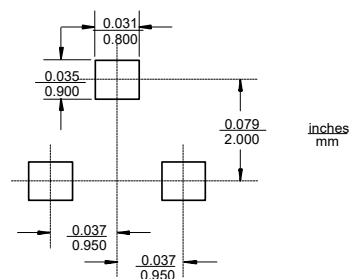
# N-CHANNEL MOSFET

## SOT-23



DIMENSIONS					NOTE
DIM	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

## Suggested Solder Pad Layout



**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	60			V
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±10	μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V			1	μA
Gate-Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	1	1.5	2.5	V
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =300mA		1.7	2.2	Ω
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =200mA		2	3	Ω
Diode Characteristics						
Continuous Body Diode Current	I <sub>S</sub>				340	mA
Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =300mA			1.2	V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>S</sub> =0.3A, di/dt=100A/μs		11.5		ns
Dynamic Characteristics						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V, f=1MHz		27		pF
Output Capacitance	C <sub>oss</sub>			3		
Reverse Transfer Capacitance	C <sub>rss</sub>			2		
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =10V, I <sub>D</sub> =0.3A		1.7		nC
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =10V, R <sub>G</sub> =6Ω, I <sub>D</sub> =0.3A		3.4		ns
Turn-Off Delay Time	t <sub>d(off)</sub>			9.6		

## Curve Characteristics

Fig. 1 - Typical Output Characteristics

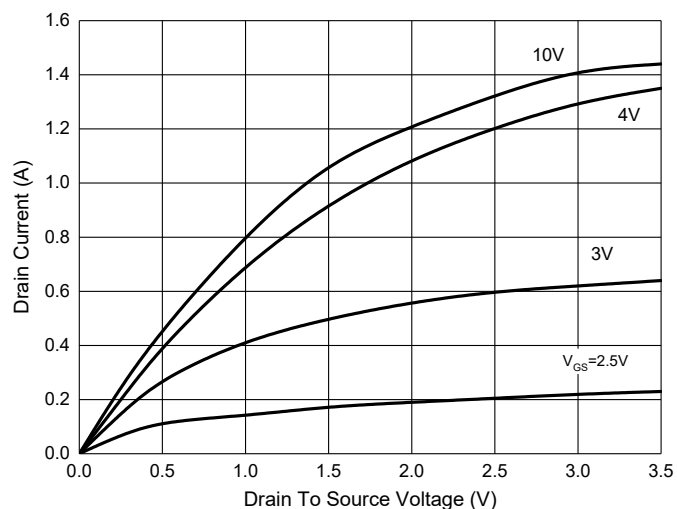


Fig. 2 - Transfer Characteristics

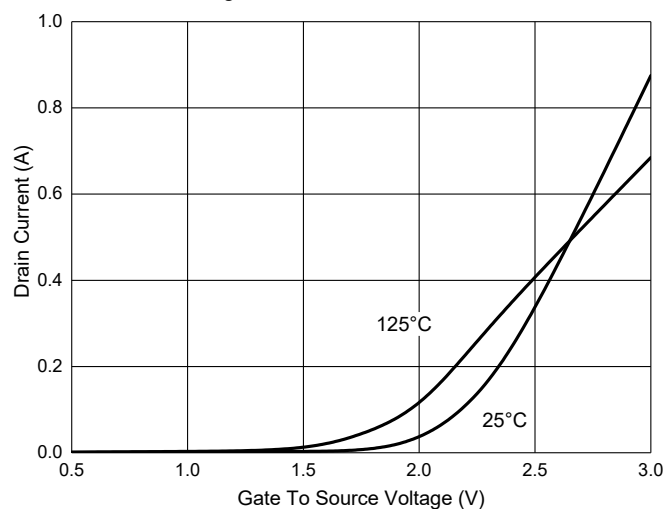


Fig. 3 -  $R_{DS(ON)} - I_D$

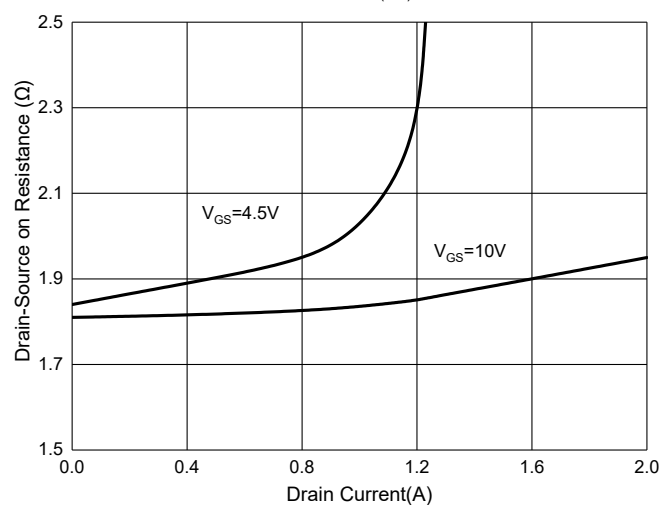


Fig. 4 - Normalized On Resistance Characteristics

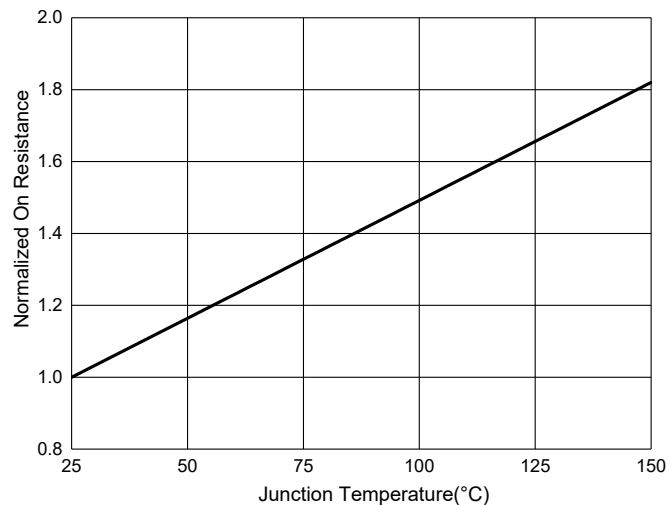


Fig. 5 - Capacitance Characteristics

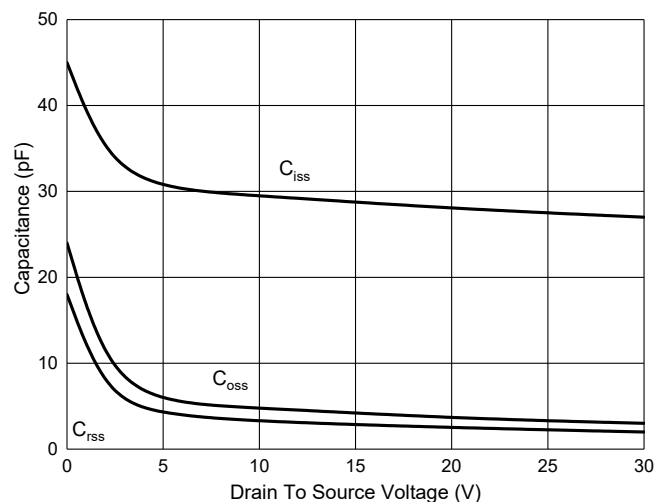
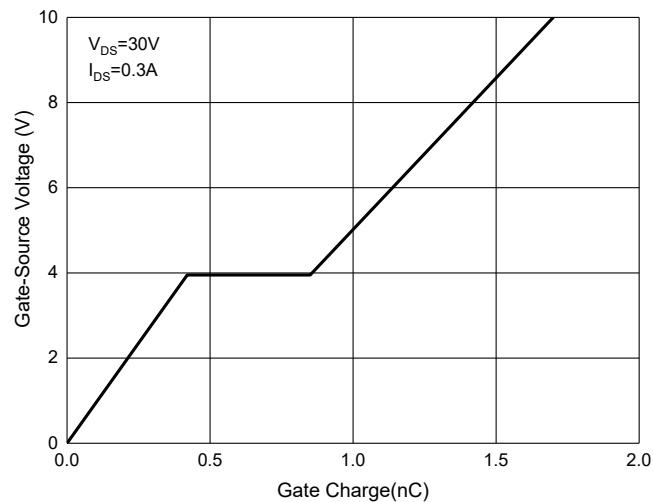
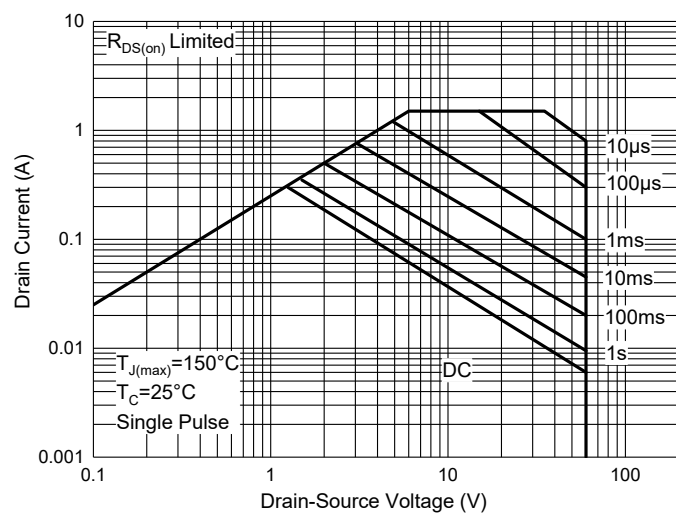


Fig. 6 - Gate Charge



## Curve Characteristics

Fig. 7 - Safe Operation Area



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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