

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Low On-Resistance : 10 Ω
- Low Input Capacitance: 30PF
- Low Out Put Capacitance : 10PF
- Low Threshold : 2V
- Fast Switching Speed : 2.5ns

APPLICATIONS

- DC-DC Converter
- Cellular & PCMCIA Card
- Cordless Telephone
- Power Management in Portable and Battery etc

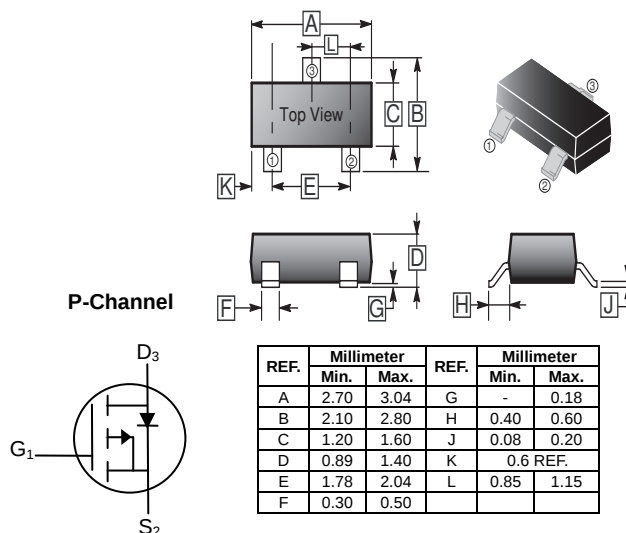
MARKING

PD

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

SOT-23



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	-50	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current @ $T_A=25^\circ\text{C}$	I_D	-130	mA
Pulsed Drain Current ($t_p \leq 10\mu\text{s}$)	I_{DM}	-520	mA
Power Dissipation @ $T_A=25^\circ\text{C}$	P_D	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$

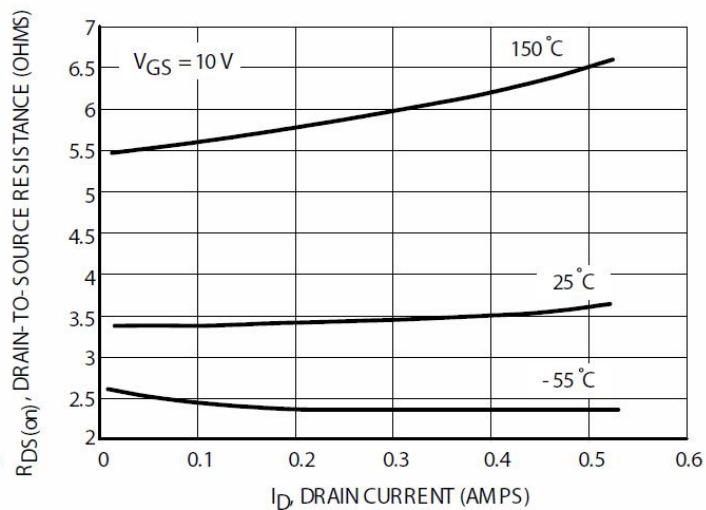
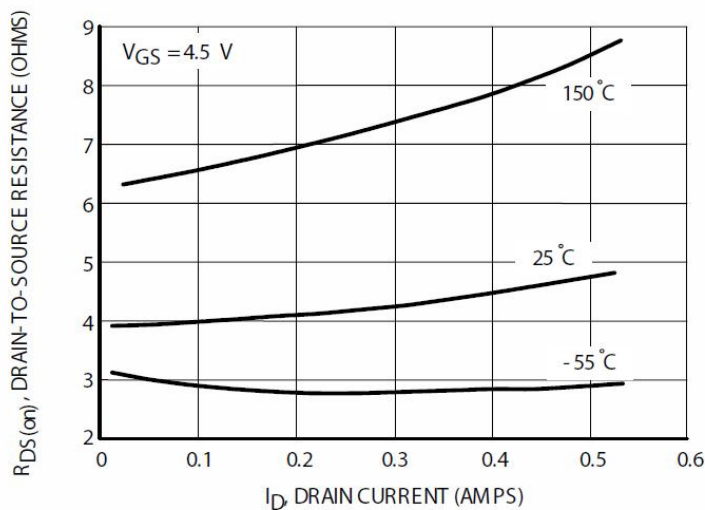
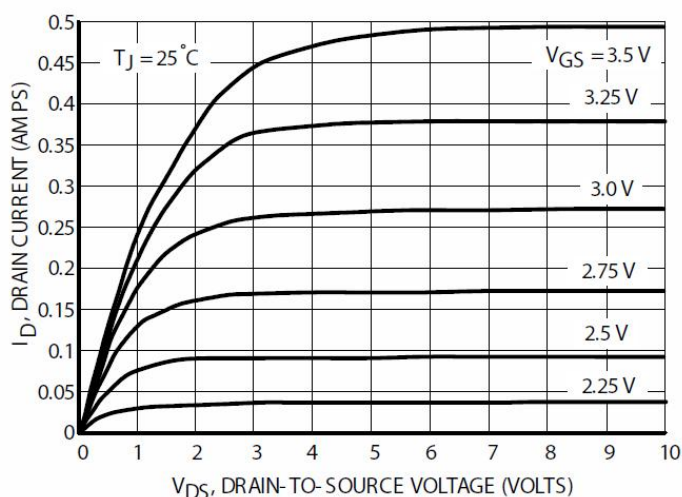
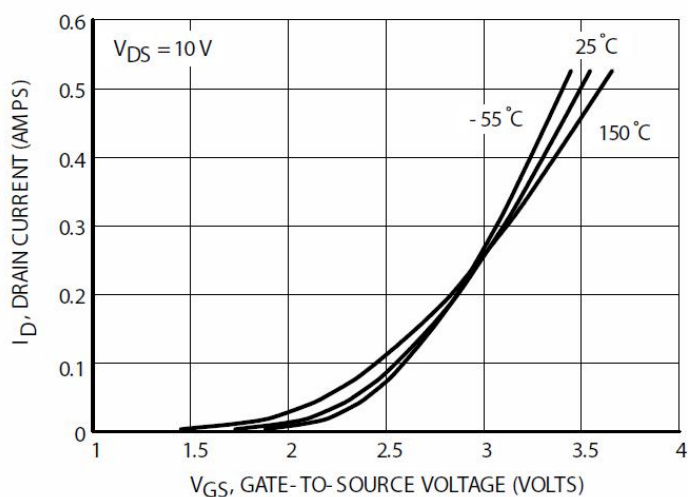
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static Characteristics ¹						
Drain-Source Breakdown Voltage	BV _{DSS}	-50	-	-	V	V _{GS} =0, I _D = -250μA
Zero Gate Voltage Drain Current	I _{DSS}	-	-	-0.1	μA	V _{GS} =0, V _{DS} = -25V
		-	-	-15		V _{GS} =0, V _{DS} = -50V
Gate-Source Leakage Current	I _{GSS}	-	-	±60	μA	V _{GS} =±20V, V _{DS} =0
Gate-Source Threshold Voltage	V _{GS(th)}	-0.8	-	-2	V	V _{DS} =V _{GS} , I _D = -1mA
Static Drain-Source On Resistance	R _{DS(ON)}	-	5	10	Ω	V _{GS} = -5V, I _D = -0.1A
Forward Transconductance	g _{FS}	50	-	-	mS	V _{DS} = -25V, I _D = -0.1A, f=1.0KHz
Dynamic Characteristics						
Input Capacitance	C _{iSS}	-	30	-	pF	V _{DS} = -5V, V _{GS} =0, f=1MHz
Output Capacitance	C _{oSS}	-	10	-		
Reverse Transfer Capacitance	C _{rSS}	-	5	-		
Switching Characteristics ²						
Turn-On Delay Time	T _{d(ON)}	-	25	-	nS	V _{DD} = -15V, ,I _D = -2.5A, R _L =50Ω,
Turn-Off Delay Time	T _{d(OFF)}	-	16	-		
Rise Time	T _r	-	1	-		
Fall Time	T _f	-	8	-		
Gate Charge	Q _T	-	6000	-	pC	
Source-Drain Diode Characteristics						
Continuous Current	I _S	-	-	0.13	A	
Pulsed Current	I _{SM}	-	-	0.52		
Forward Voltage ²	V _{SD}	-	-2.5	-	V	

Notes:

1. Pulse Test : $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.
2. Switching Time is Essentially Independent of Operating Temperature.

CHARACTERISTIC CURVE



CHARACTERISTIC CURVE

