

Features

- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

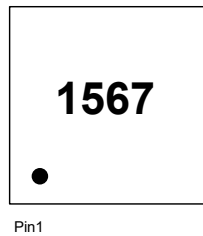
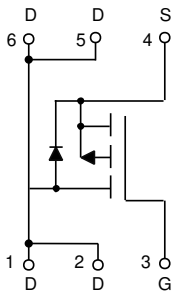
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 62.5°C/W Junction to Ambient^(Note 2)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current ^(Note 3)	I_D	$T_A=25^\circ\text{C}$	-9 A
		$T_A=70^\circ\text{C}$	-7.2 A
Pulsed Drain Current ^(Note 4)	I_{DM}	-36	A
Total Power Dissipation	P_D	2	W

Note:

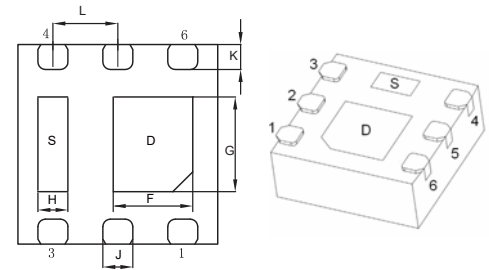
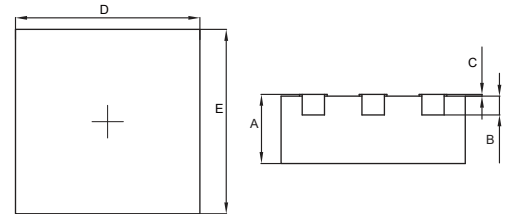
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. The Value of $R_{\theta JA}$ is Measured with the Device Mounted on 1 in² FR-4 Board with 2oz. Copper, in a Still Air Environment with $T_A=25^\circ\text{C}$.
3. The Current Rating is Based on the $t \leq 10\text{s}$ Junction to Ambient Thermal Resistance Rating.
4. Repetitive Rating, Pulse Width Limited by Junction Temperature.

Internal Structure and Marking Code



P-CHANNEL MOSFET

DFN2020-6J



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.030	0.034	0.750	0.850	
B	0.008		0.200		BSC.
C	0.000	0.004	0.000	0.100	
D	0.075	0.083	1.900	2.100	
E	0.075	0.083	1.900	2.100	
F	0.024	0.031	0.610	0.810	
G	0.028	0.036	0.710	0.910	
H	0.008	0.016	0.200	0.400	
J	0.008	0.016	0.200	0.400	
K	0.006	0.014	0.150	0.350	
L	0.026		0.650		BSC.

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.75	-1	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V, I_D=-6.7A$		14	18	m Ω
		$V_{GS}=-2.5V, I_D=-6.2A$		18	24	
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-1A$			-1.2	V
Diode Forward Current	I_S				-2.7	A
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		2760		pF
Output Capacitance	C_{oss}			262		
Reverse Transfer Capacitance	C_{rss}			220		
Total Gate Charge	Q_g	$V_{DS}=-15V, V_{GS}=-4.5V, I_D=-4A$		34		nC
Gate-Source Charge	Q_{gs}			3.5		
Gate-Drain Charge	Q_{gd}			8.3		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-15V, V_{GEN}=-4.5V, I_D=-4A, R_g=1\Omega$		7.5		ns
Turn-On Rise Time	t_r			25		
Turn-Off Delay Time	$t_{d(off)}$			125		
Turn-Off Fall Time	t_f			96		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

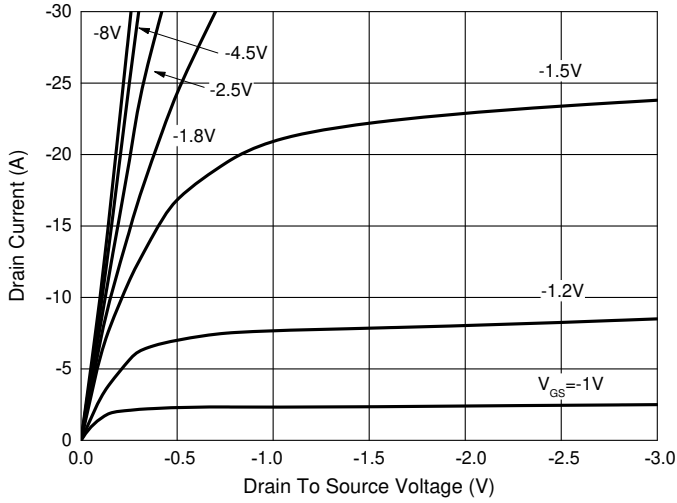


Fig. 2 - Transfer Characteristics

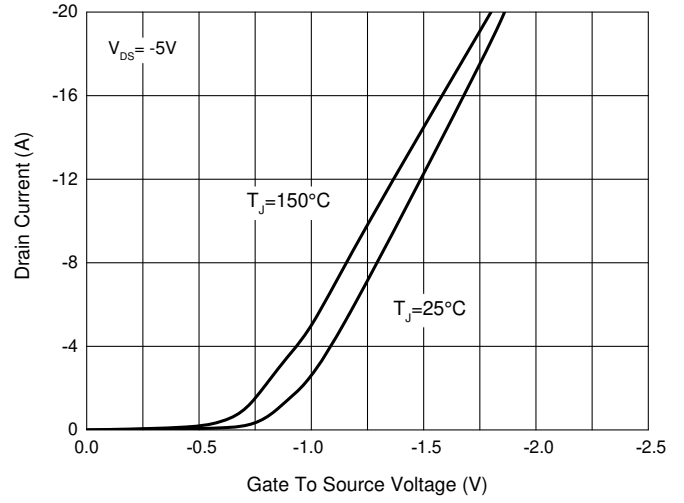


Fig. 3 - Capacitance Characteristics

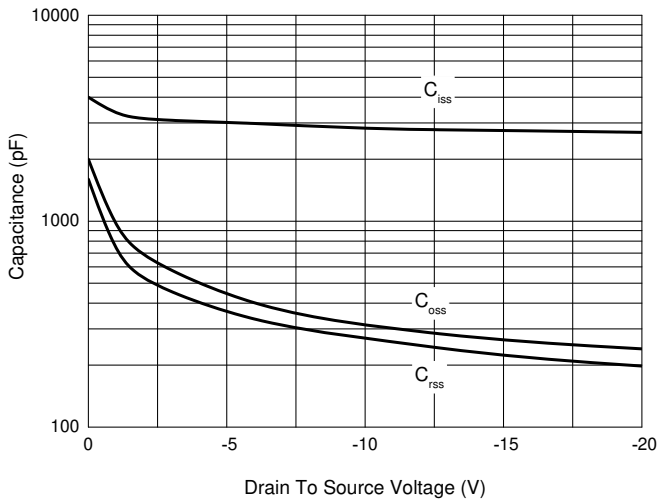


Fig. 4 - Total Gate Charge Characteristics

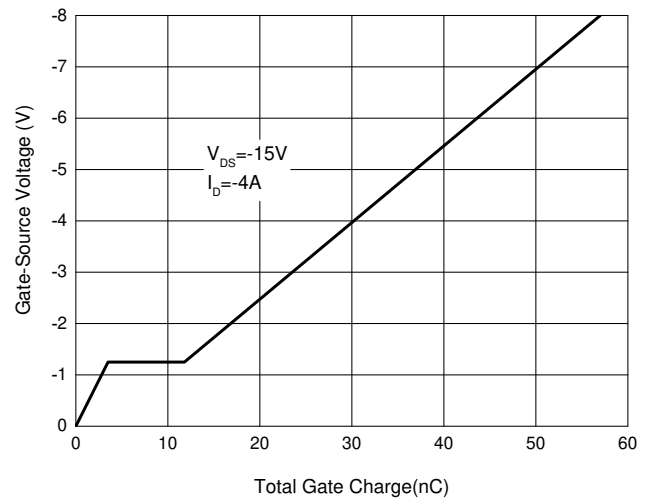


Fig. 5 - $R_{DS(ON)} - I_D$

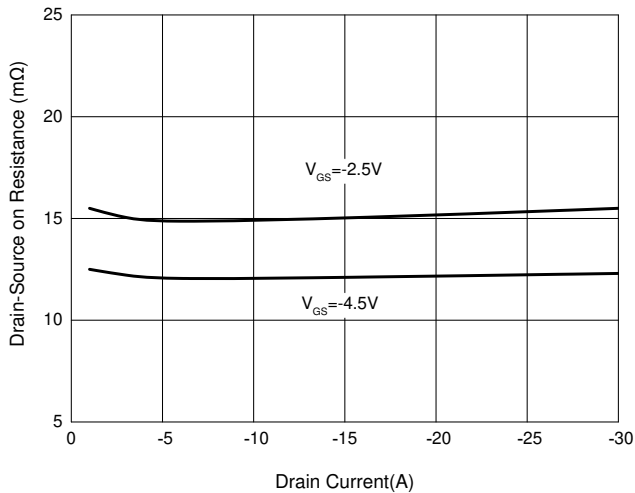
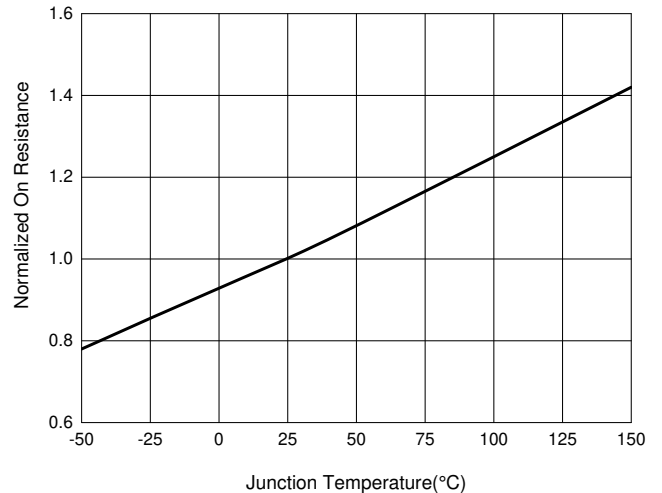


Fig. 6 - Normalized On Resistance Characteristics



Ordering Information

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

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