

Features

- High Current Rating
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

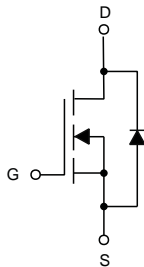
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Continuous Drain Current @ 25°C	I_D	7	A
Continuous Drain Current @ 100°C	I_D	4.2	A
Pulsed Drain Current ^(Note1)	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	±30	V
Single Pulse Avalanche ^(Note2)	E_{AS}	220	mJ
Pulsed Avalanche Rating ^(Note2)	I_{AS}	7	A

Note 1. Pulse Width Limited by Maximum Junction Temperature.

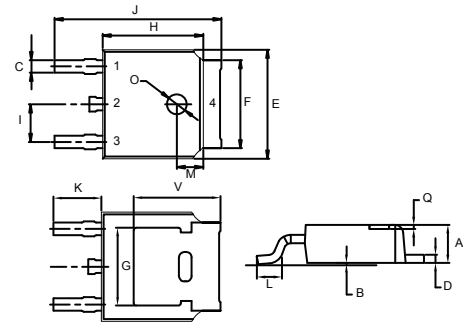
2. $V_{DD}=50V, V_{DS}=650V, R_G=25\Omega, T_J=25^\circ C.$

Internal Structure



**N-CHANNEL
MOSFET**

DPAK(TO-252)



- 1. Gate
- 2,4. Drain
- 3. Source

DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		TYP.
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		TYP.
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		TYP.
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		TYP.

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	650			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V, T_J=25^\circ C$			1	μA
		$V_{DS}=650V, V_{GS}=0V, T_J=150^\circ C$			10	
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.5		4.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=3.5A$		1.15	1.4	Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$		1600		pF
Output Capacitance	C_{oss}			85		
Reverse Transfer Capacitance	C_{rss}			3.5		
Total Gate Charge	Q_g	$V_{DD}=520V, V_{GS}=10V, I_D=7A$		26		nC
Gate-Source Charge	Q_{gs}			10.5		
Gate-Drain Charge	Q_{gd}			7.1		
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Body-Diode Continuous Current	I_S				7	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_F=I_S$			1.5	V

Curve Characteristics

Fig. 1 - Typical Output Characteristics

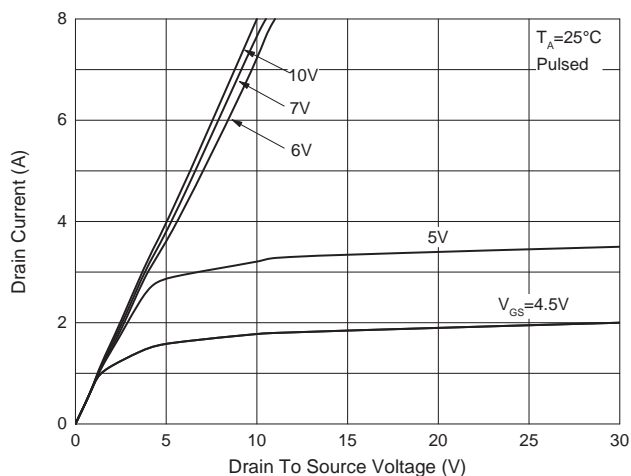


Fig. 2 - Drain-Source On-Resistance Characteristics

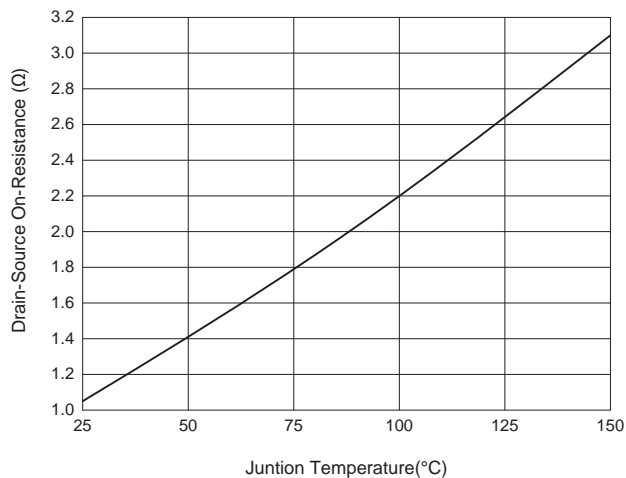


Fig. 3 - Drain-Source Breakdown Voltage Characteristics

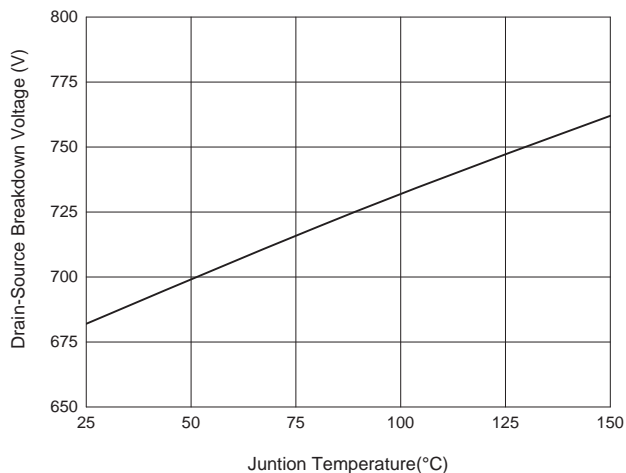


Fig. 4 - Drain Current Characteristics

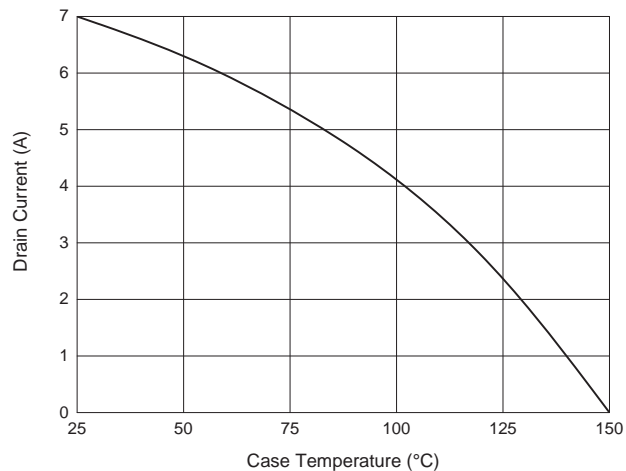


Fig. 5 - Total Gate Charge Characteristics

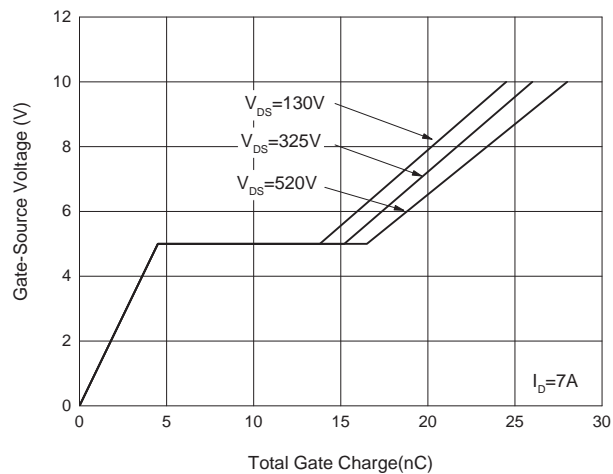
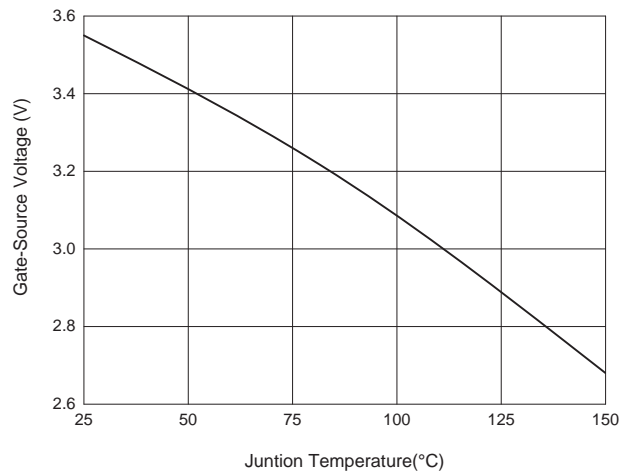


Fig. 6 - Gate-Source Voltage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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