

Features

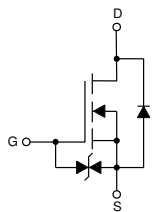
- ESD Protected up to 2KV (HBM)
- High Dense Cell Design For Extremely Low RDS(ON)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

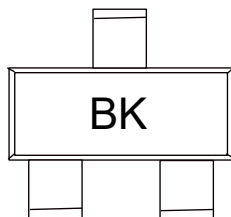
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 500°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	0.37	A
Pulsed Drain Current	I_{DM}	1.48	A
Total Power Dissipation	$T_A=25^\circ\text{C}$	P_D	0.25 W

Internal Structure and Marking Code

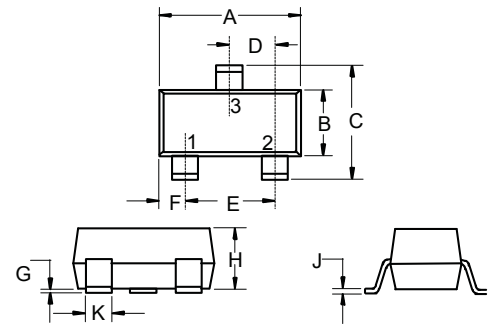


1. GATE
2. SOURCE
3. DRAIN



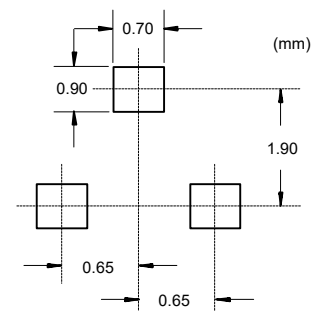
N-CHANNEL MOSFET

SOT-323



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	

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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	50			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=50V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5		1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.3A$		1	1.5	Ω
		$V_{GS}=4.5V, I_D=0.2A$		1.1	2.3	
		$V_{GS}=2.5V, I_D=0.1A$		1.6	4.1	
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=0.3A$			1.4	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V, f=1MHz$		58		μF
Output Capacitance	C_{oss}			16		
Reverse Transfer Capacitance	C_{rss}			9.4		
Total Gate Charge	Q_g	$V_{DS}=30V, V_{GS}=10V, I_D=0.3A$		1.5		nC
Gate-Source Charge	Q_{gs}			0.3		
Gate-Drain Charge	Q_{gd}			0.2		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=30V, V_{GEN}=10V, R_G=3.9\Omega, R_L=100\Omega, I_{DS}=0.3A$		2.5		ns
Turn-On Rise Time	t_r			2		
Turn-Off Delay Time	$t_{d(off)}$			9.2		
Turn-Off Fall Time	t_f			7.7		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

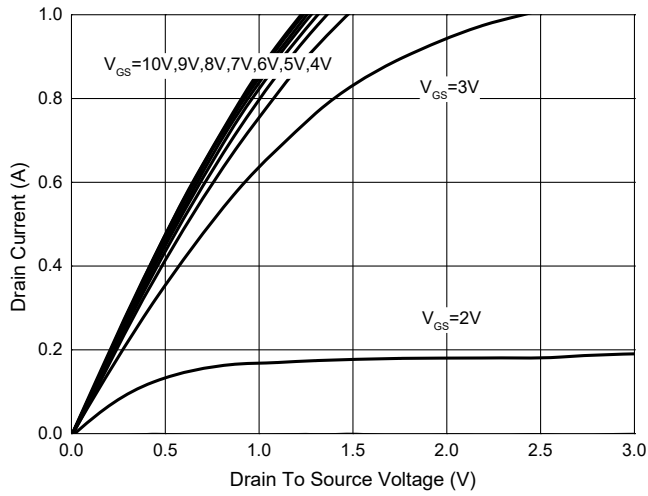


Fig. 2 - $R_{DS(ON)} - I_D$

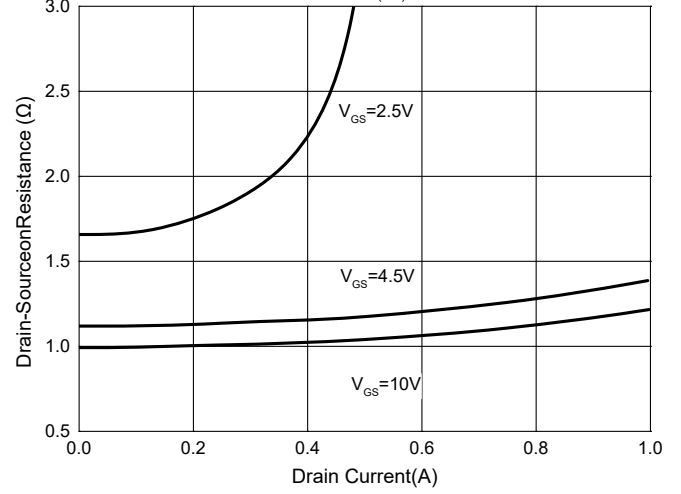


Fig. 3 - Normalized On Resistance Characteristics

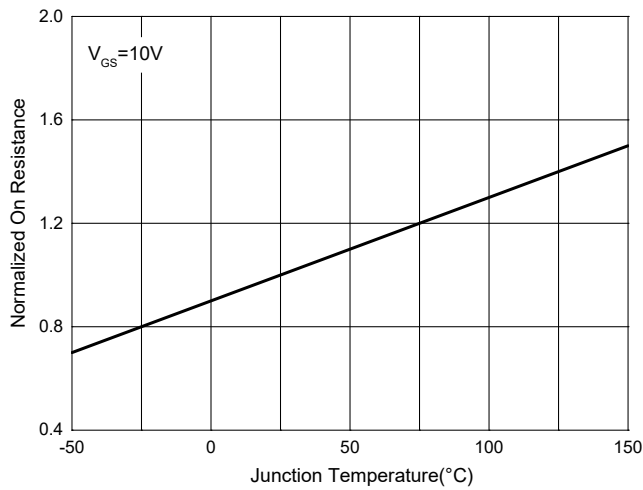


Fig. 4 - $I_S - V_{SD}$

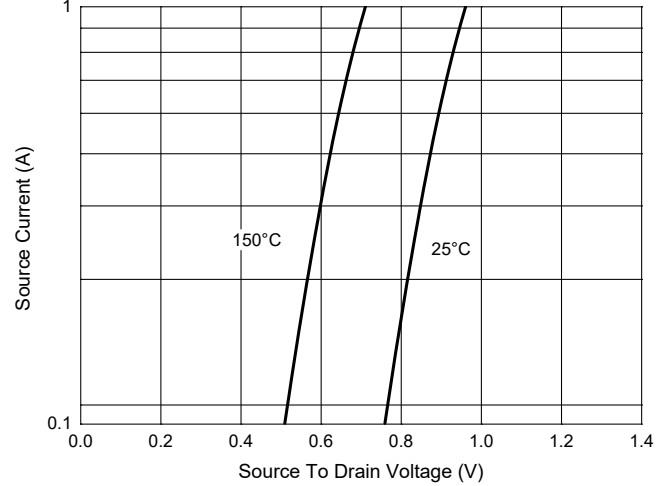


Fig. 5 - Capacitance Characteristics

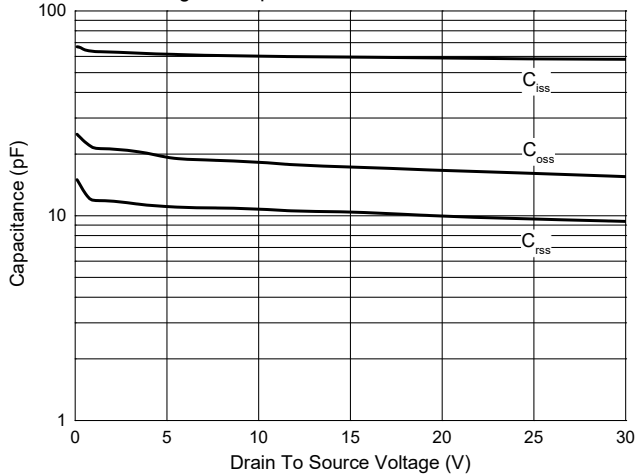
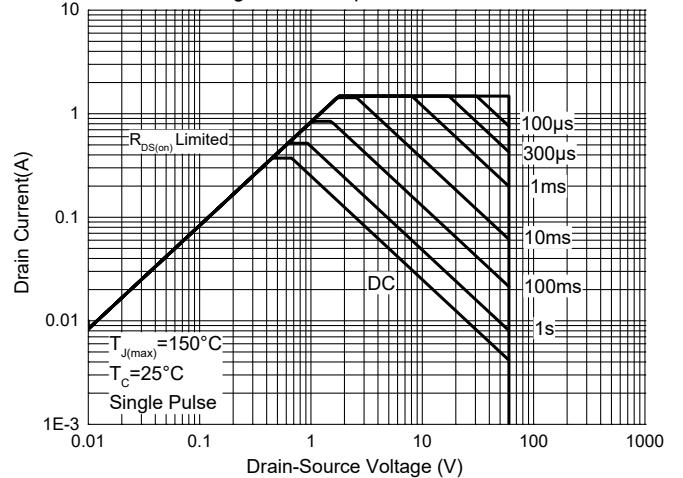
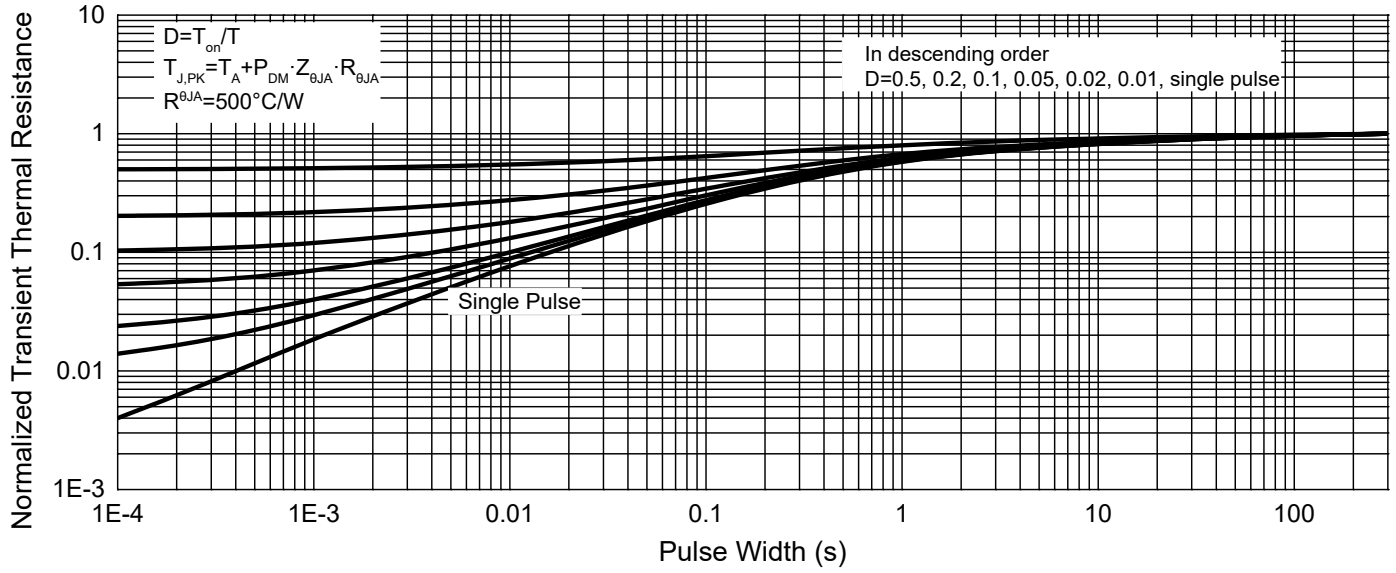


Fig. 6 - Safe Operation Area



Curve Characteristics

Fig. 7 - Normalized Transient Thermal Impedance



Ordering Information

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

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