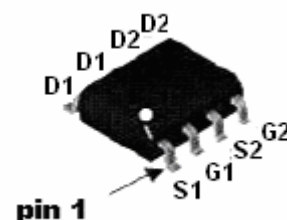


P-CHANNEL ENHANCEMENT MODE POWER MOSFET

Features:

- $R_{DS(ON)}=42m\Omega @V_{GS}=-10V, I_D=-5A$
 $R_{DS(ON)}=70m\Omega @V_{GS}=-4.5V, I_D=-4A$
- Simple drive requirement
- Low on-resistance
- Fast switching speed
- Pb-free lead plating package

SOP-8



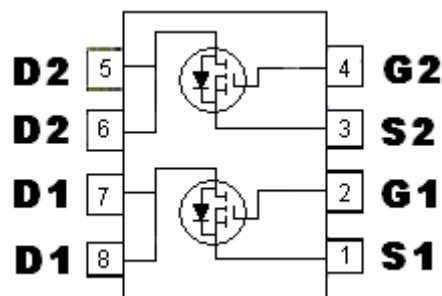
Applications:

- Power management in notebook computer, portable equipment and battery powered systems.

Description:

The KSCDP4953BDY is a P-channel enhancement-mode MOSFET, providing the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost effectiveness.

The SOP-8 package is universally preferred for all commercial -industrial surface mount applications and suited for low voltage applications such as DC/DC converters.



G : Gate
S : Source
D : Drain

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current @Ta=25 °C (Note 1)	I_D	-5	A
Continuous Drain Current @Ta=70 °C (Note 1)	I_D	-4	A
Pulsed Drain Current (Note 2)	I_{DM}	-20	A
Total Power Dissipation (Note 1)	P_d	2	W
Linear Derating Factor		0.02	W / °C
Operating Junction Temperature	T_j	-55~+150	°C
Storage Temperature	T_{stg}	-55~+150	°C
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{th,ja}$	62.5	°C/W

Note : 1.Surface mounted on 1 in² copper pad of FR-4 board, t≤10s.
2.Pulse width ≤300μs, duty cycle≤2%

Electrical Characteristics (Tj=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV _{DSS}	-30	-	-	V	V _{GS} =0, I _D =-250μA
V _{GS(th)}	-1	-	-2.5	V	V _{DS} =V _{GS} , I _D =-250μA
I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0
I _{DSS}	-	-	-1	μA	V _{DS} =-24V, V _{GS} =0
*R _{DS(ON)}	-	-	42	mΩ	I _D =-5A, V _{GS} =-10V
	-	-	70		I _D =-4A, V _{GS} =-4.5V
*G _{FS}	-	5	-	S	V _{DS} =-5V, I _D =-5A
Dynamic					
C _{iss}	-	582	-	pF	V _{DS} =-15V, V _{GS} =0, f=1MHz
C _{oss}	-	125	-		
C _{rss}	-	86	-		
*t _{d(ON)}	-	9	-	ns	V _{DS} =-15V, I _D =-1A, V _{GS} =-10V, R _G =6Ω, R _D =15Ω
*t _r	-	10	-		
*t _{d(OFF)}	-	37	-		
*t _f	-	23	-		
*Q _g	-	11.7	-	nC	V _{DS} =-15V, I _D =-5A, V _{GS} =-10V,
*Q _{gs}	-	2.1	-		
*Q _{gd}	-	2.9	-		
Source-Drain Diode					
*V _{SD}	-	-0.84	-1.2	V	V _{GS} =0V, I _S =-1.7A

*Pulse Test : Pulse Width ≤300μs, Duty Cycle≤2%

Characteristic Curves

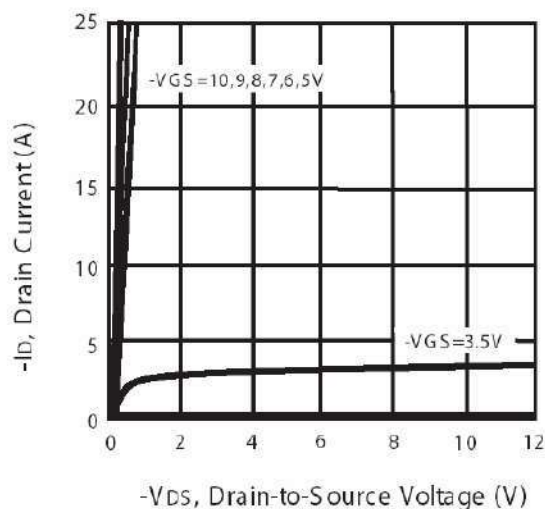


Fig 1. Typical Output Characteristics

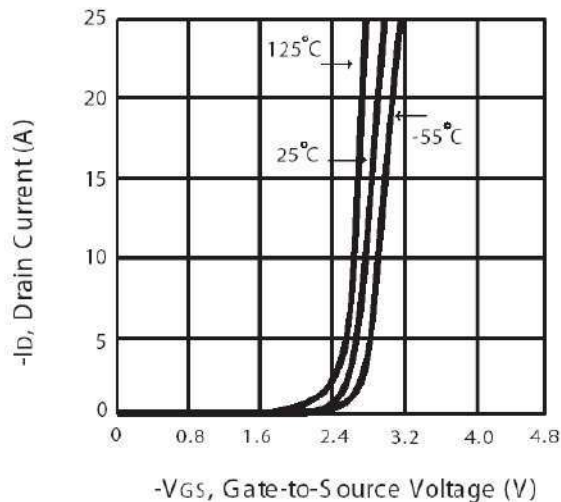


Fig 2. Transfer Characteristics

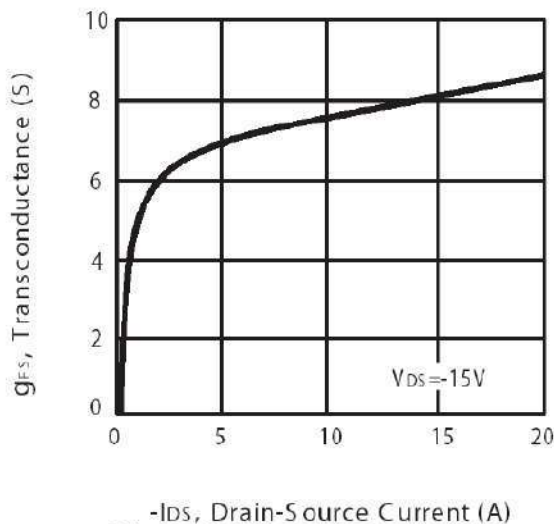


Fig 3. Transconductance v.s. Drain Current

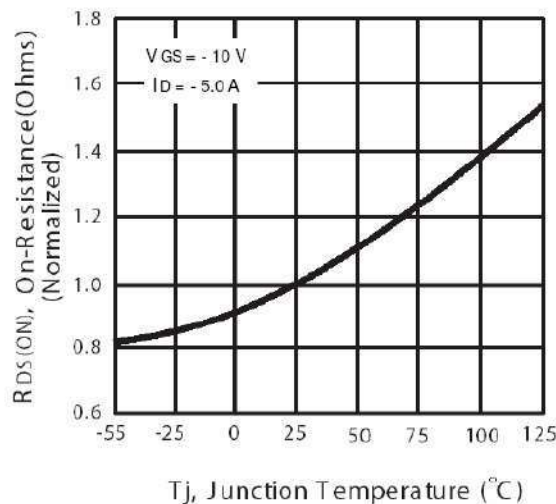


Fig 4. On-Resistance v.s. Junction Temperature

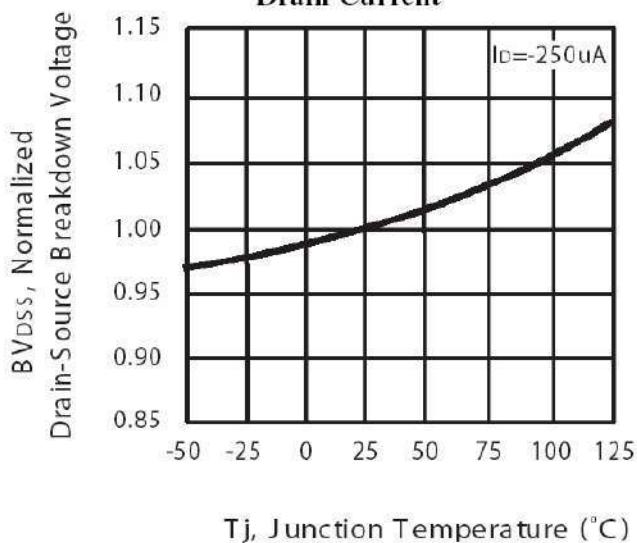


Fig 5. Breakdown Voltage v.s. Junction Temperature

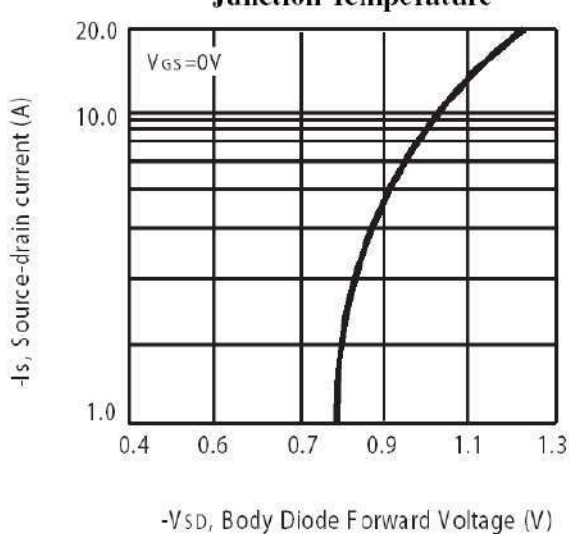


Fig 6. Body Diode Forward Voltage v.s. Source Current

Characteristic Curves(Cont.)

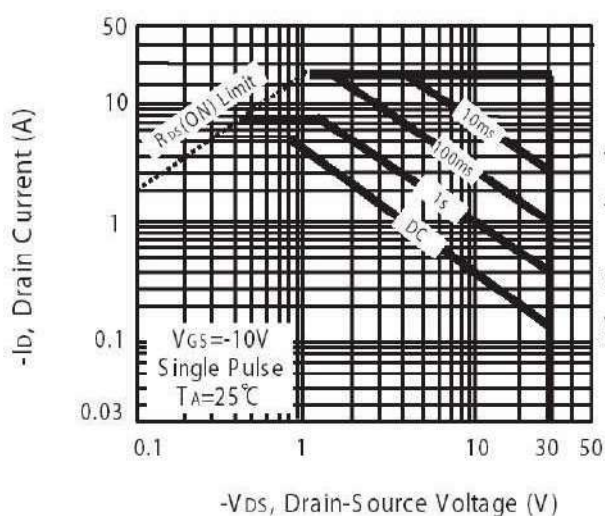


Fig 7. Maximum Safe Operating Area

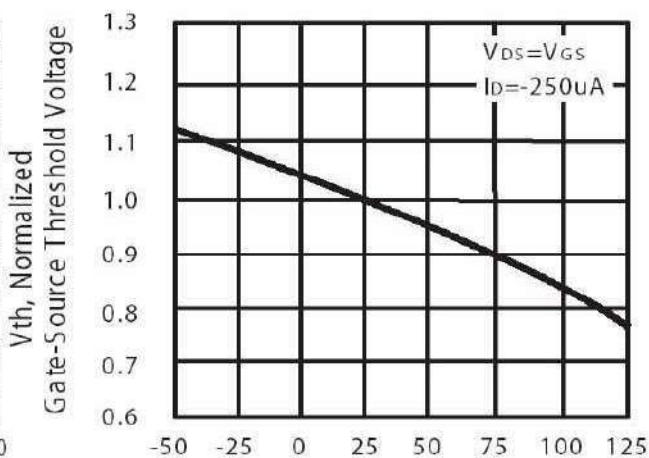


Fig 8. Gate Threshold Voltage
v.s. Junction Temperature

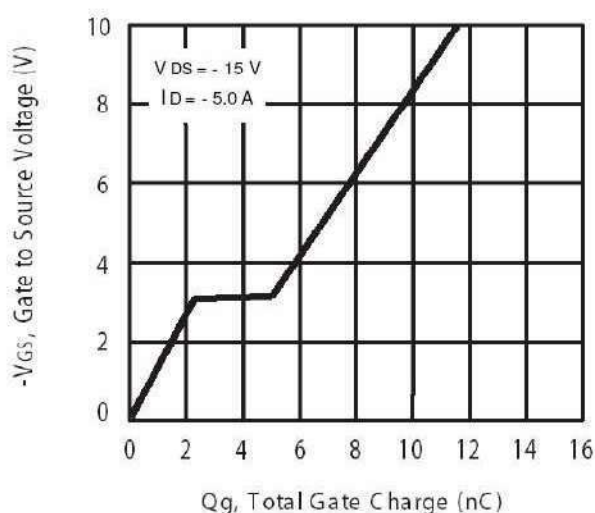


Fig 9. Gate Charge Characteristics

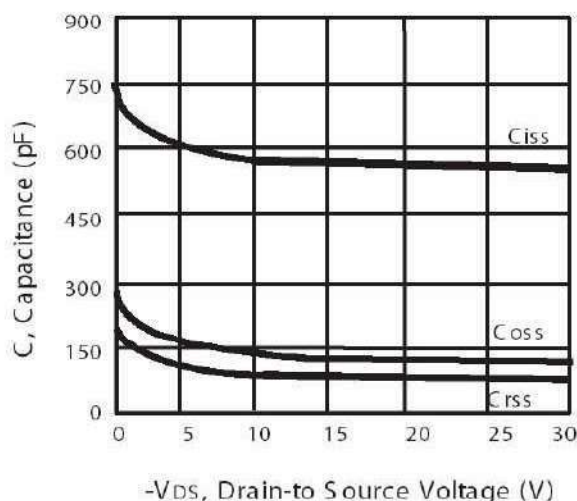


Fig 10. Typical Capacitance Characteristics

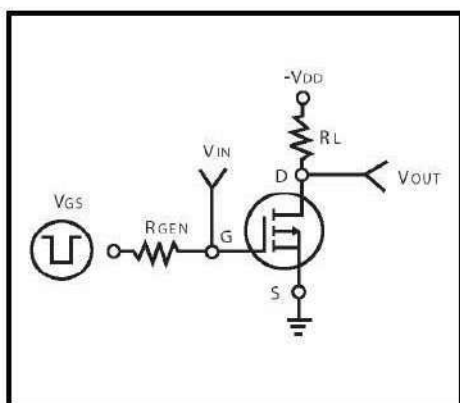


Fig 11. Switching Time Circuit

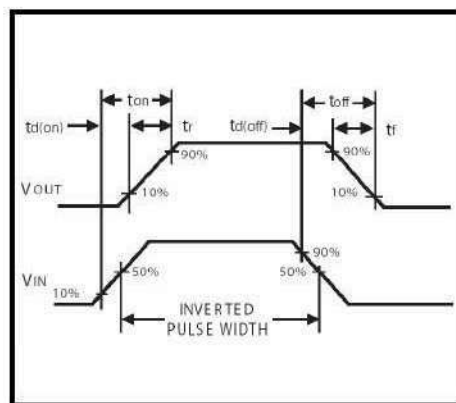


Fig 12. Switching Time Waveform

Characteristic Curves(Cont.)

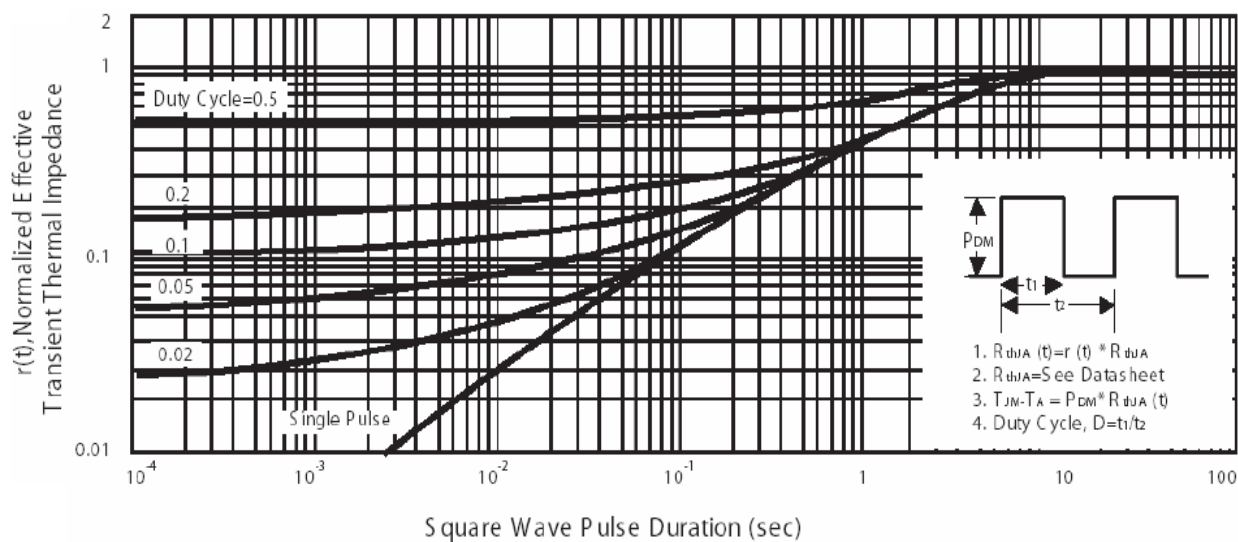
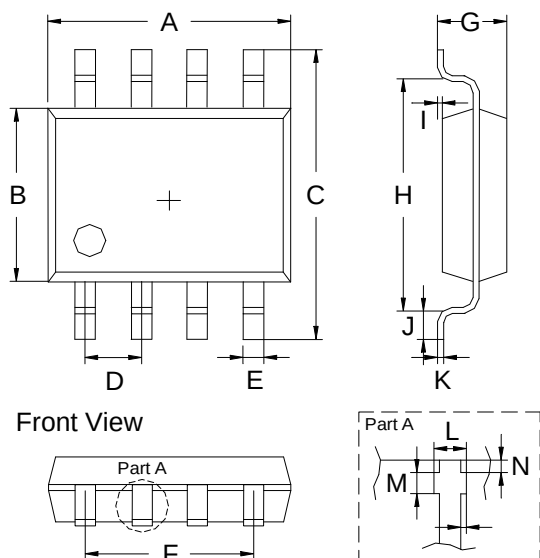


Fig 13. Normalized Thermal Transient Impedance Curve

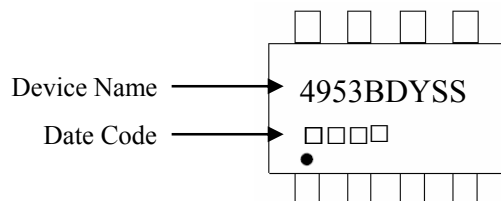
Ordering Information

Device	Package	Shipping	Marking
KSCDP4953BDY	SOP-8 (Pb-free lead plating package)	3000 pcs / Tape & Reel	4953BDYSS

SOP-8 Dimension



Marking:



8-Lead SOP-8 Plastic

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1890	0.2007	4.80	5.10	I	0.0098	REF	0.25	REF
B	0.1496	0.1654	3.80	4.20	J	0.0118	0.0354	0.30	0.90
C	0.2283	0.2441	5.80	6.20	K	0.0074	0.0098	0.19	0.25
D	0.0480	0.0519	1.22	1.32	L	0.0145	0.0204	0.37	0.52
E	0.0138	0.0193	0.35	0.49	M	0.0118	0.0197	0.30	0.50
F	0.1472	0.1527	3.74	3.88	N	0.0031	0.0051	0.08	0.13
G	0.0531	0.0689	1.35	1.75	O	0.0000	0.0059	0.00	0.15
H	0.1889	0.2007	4.80	5.10					