

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	9mΩ@10V	75A
	13mΩ@4.5V	

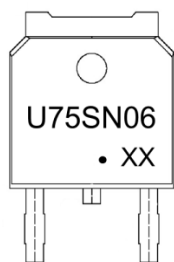
Feature

- High Speed Power Switching, Logic Level
- Enhanced Body diode dv/dt capability
- Enhanced Avalanche Ruggedness

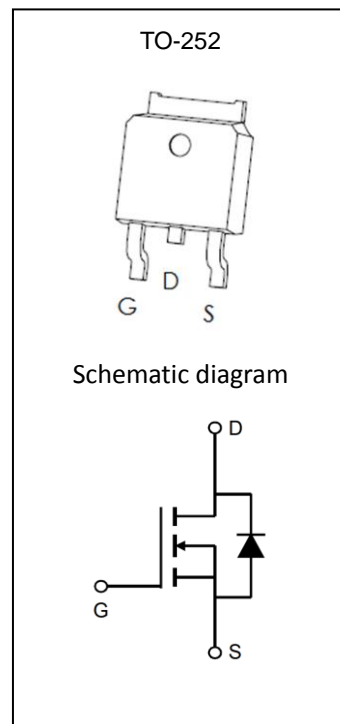
Application

- Power switching application
- Load switching

MARKING:



U75SN06 = Device Code
Solid Dot = Green Device
XX = Date Code



ABSOLUTE MAXIMUM RATINGS (T_J=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Continuous Drain Current	I_D	75	A
Drain to Source Voltage	V_{DS}	60	V
Gate to Source Voltage	V_{GS}	±20	V
Pulsed Drain Current	I_{DM}	150	A
Avalanche Energy, Single Pulse*	L=0.3mH E_{AS}	113	mJ
Power Dissipation	P_D	56	W
Thermal Resistance Junction-Case	$R_{\theta JC}$	2.2	°C/W
Operating and Storage Temperature	T_J, T_{stg}	-55 ~ 150	°C

* E_{AS} test condition $V_{DD}=25V, V_{GS}=10V, L=0.3mH, I_{AS}=21A$

MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V, T_J = 25^{\circ}\text{C}$			0.3	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ¹	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.1	1.7	2.5	V
Drain-source on-resistance ¹	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 12A$		8.2	9.0	m Ω
		$V_{GS} = 4.5V, I_D = 12A$		10.0	13.0	m Ω
Forward transconductance ¹	g_{FS}	$V_{DS} = 5V, I_D = 12A$		25		S
Gate Resistance	R_G	$V_{GS} = 0V, V_{DS} \text{ Open}, f = 1\text{MHz}$		1.2		Ω
Dynamic characteristics²						
Input Capacitance	C_{iss}	$V_{DS} = 30V, V_{GS} = 0V, f = 1\text{MHz}$		1980		pF
Output Capacitance	C_{oss}			470		
Reverse Transfer Capacitance	C_{rss}			14		
Total gate charge(10V)	Q_g	$V_{DS} = 30V, I_D = 12A, V_{GS} = 10V$		31		nC
Gate-source charge	Q_{gs}			6		
Gate-drain charge	Q_{gd}			5		
Turn-on delay time	$t_{d(on)}$	$V_{DS} = 15V, R_L = 2.5\Omega$ $V_{GS} = 10V, R_G = 3\Omega$		10.5		ns
Turn-on rise time	t_r			4.5		
Turn-off delay time	$t_{d(off)}$			29.5		
Turn-off fall time	t_f			8		
Source-Drain Diode characteristics						
Body Diode Voltage	V_{DS}	$T_J = 25^{\circ}\text{C}, I_{SD} = 1A, V_{GS} = 0V$		0.7	1.2	V

Notes:

1. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

Fig 1: Output Characteristics

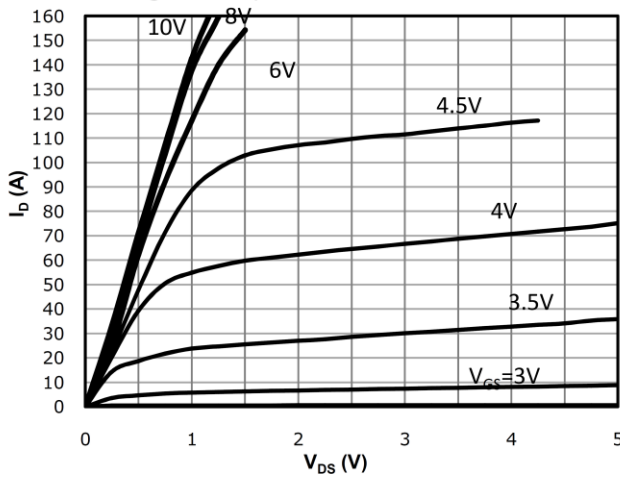


Fig 2: Transfer Characteristics

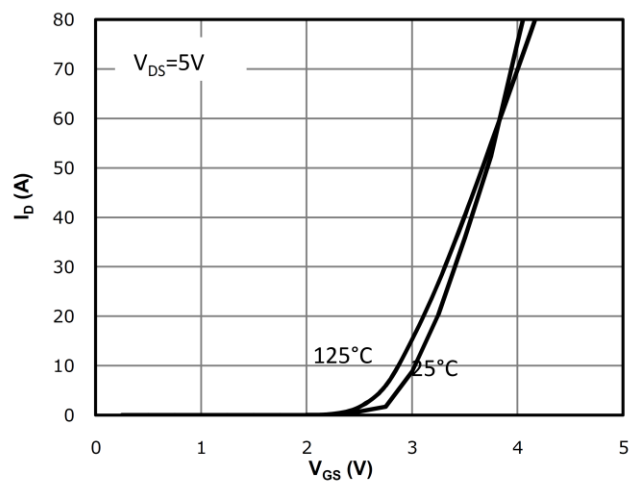


Fig 3: $R_{DS(on)}$ vs Drain Current and Gate Voltage

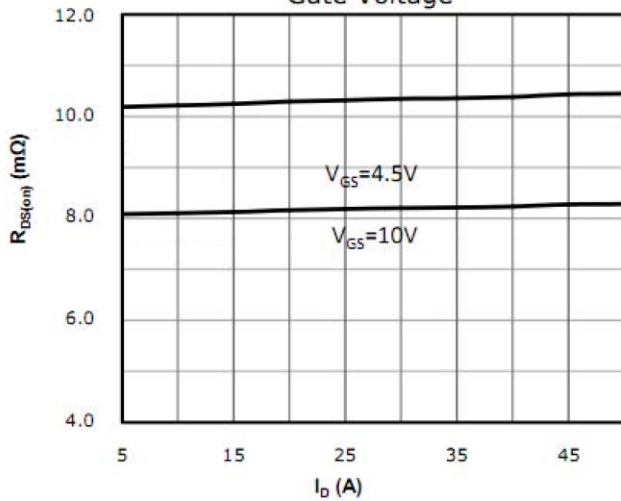


Fig 4: $R_{DS(on)}$ vs Gate Voltage

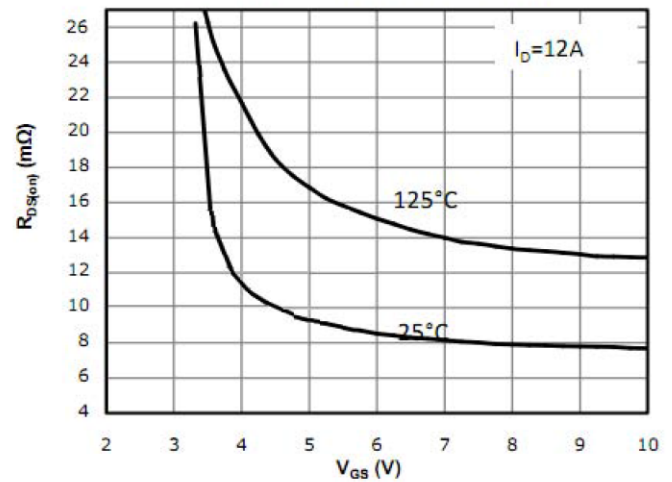


Fig 5: $R_{DS(on)}$ vs. Temperature

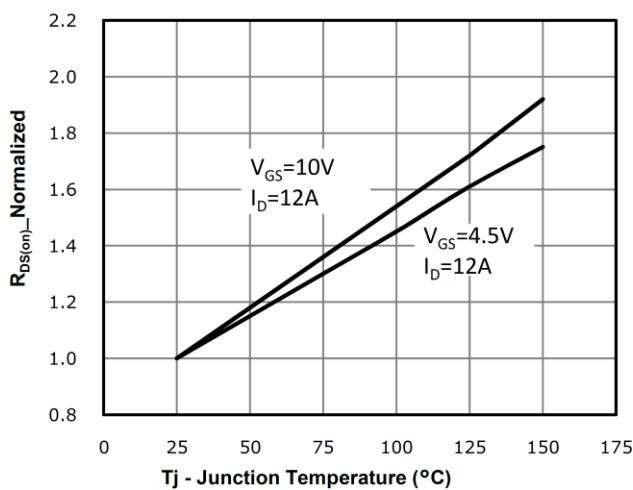


Fig 6: Capacitance Characteristics

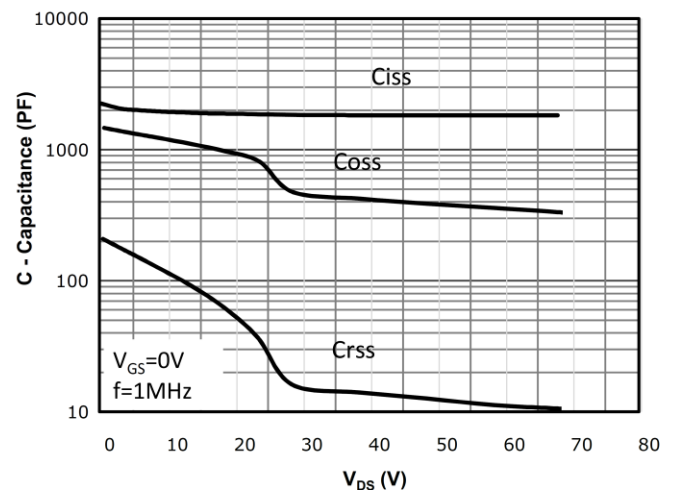


Fig 7: Gate Charge Characteristics

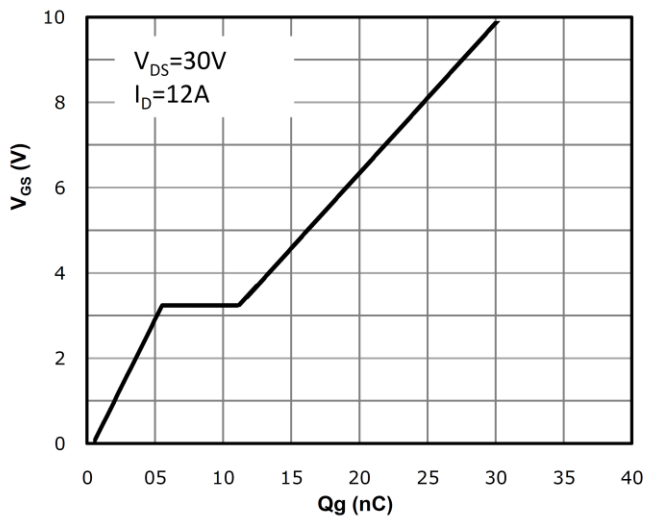
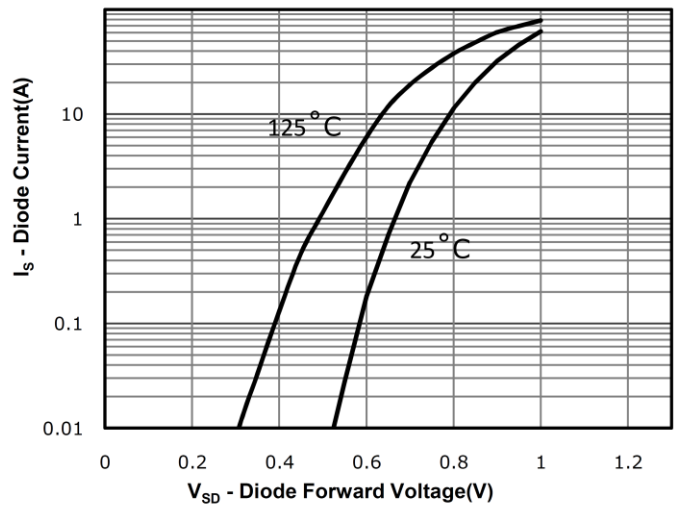
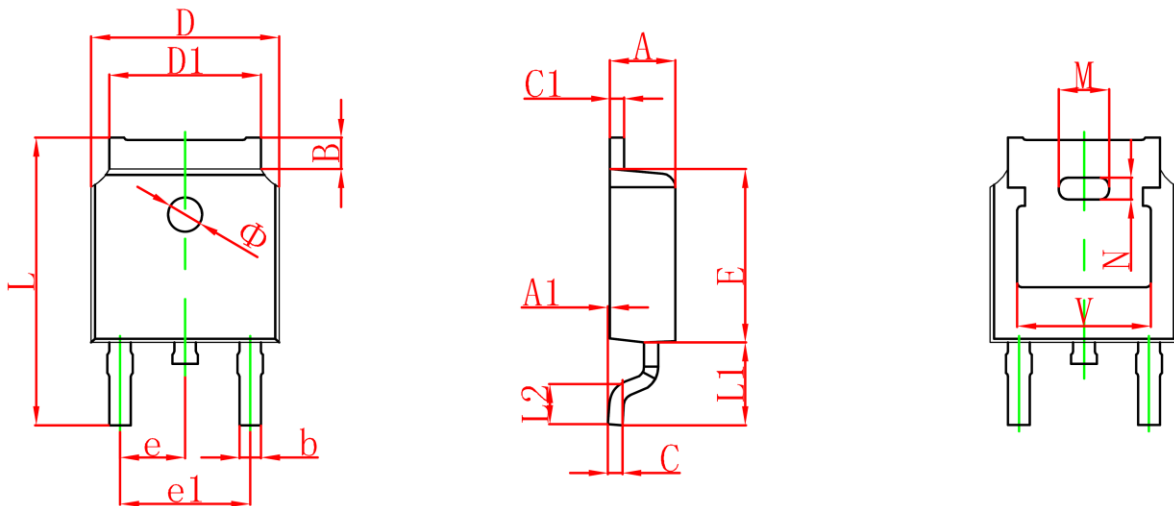


Fig 8: Body-diode Forward Characteristics



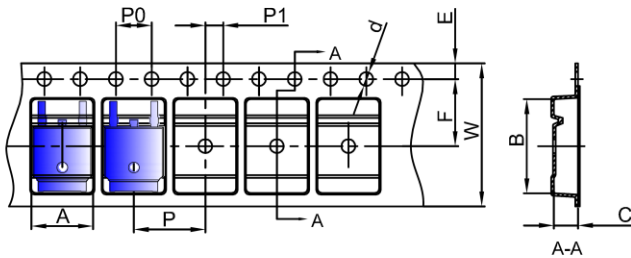
TO-252 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286 TYP.		0.090 TYP.	
e1	4.327	4.727	0.170	0.186
M	1.778REF.		0.070REF.	
N	0.762REF.		0.018REF.	
L	9.800	10.400	0.386	0.409
L1	2.9REF.		0.114REF.	
L2	1.400	1.700	0.055	0.067
V	4.830 REF.		0.190 REF.	
Φ	1.100	1.300	0.043	0.051

TO-252 Tape and Reel

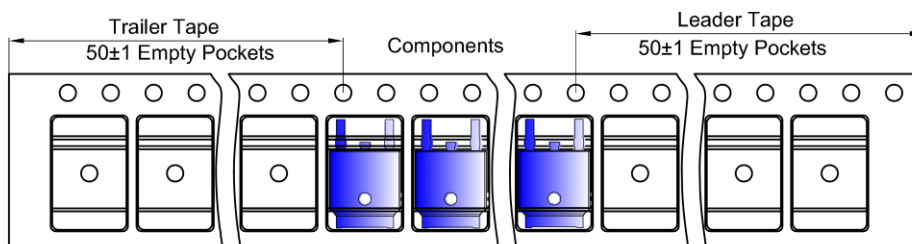
TO-252 Tape and reel

TO-252 Embossed Carrier Tape

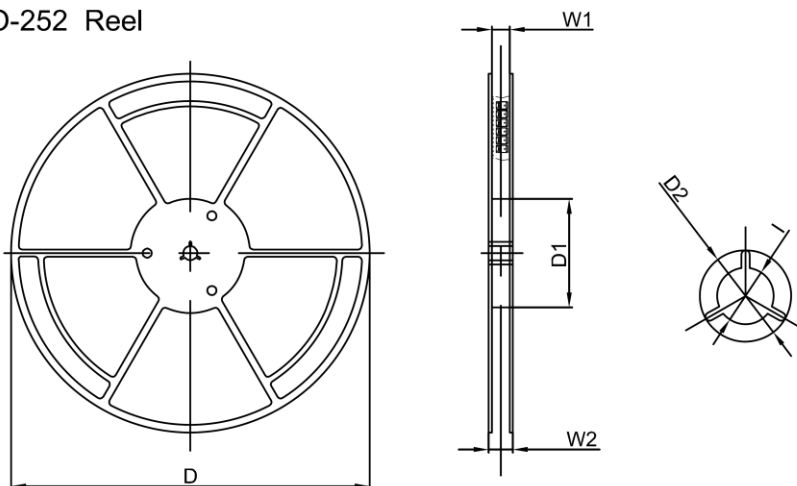


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P1	W	
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
(Tolerance)	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

TO-252 Tape Leader and Trailer



TO-252 Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	l
13" Dia	330.00	100.00	Ø21.00	16.40	21.00	Ø13.00
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13inch	2,500 pcs	340×336×29	25,000 pcs	353×346×365	14.04

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)