

-60V P-Channel Enhancement Mode MOSFET

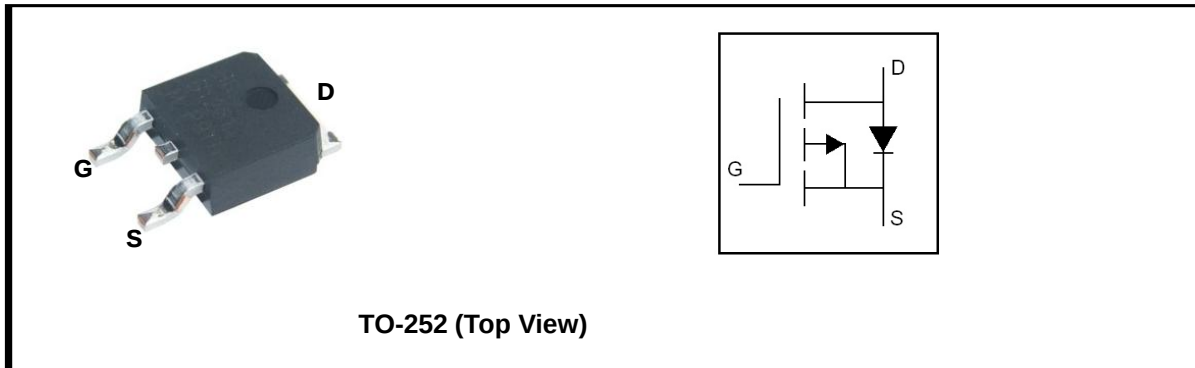
VDS= -60V

RDS(ON), Vgs@ -10.0V, Ids@ -25.0A <22.0mΩ

Features

Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance



Maximum Ratings and Thermal Characteristics (TA = 25oC unless otherwise noted)

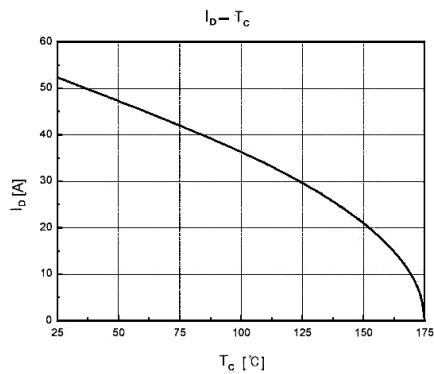
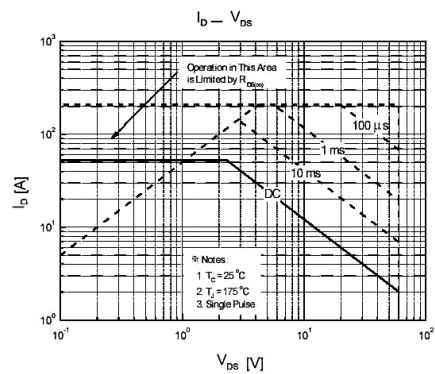
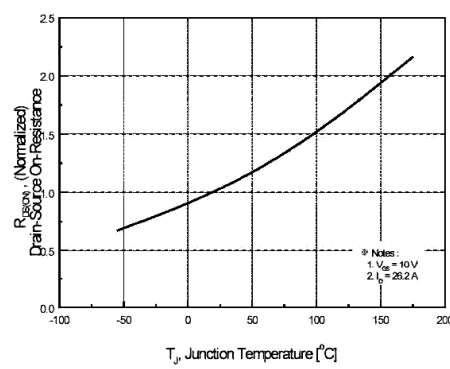
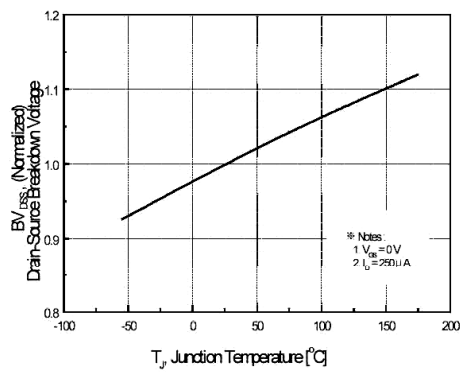
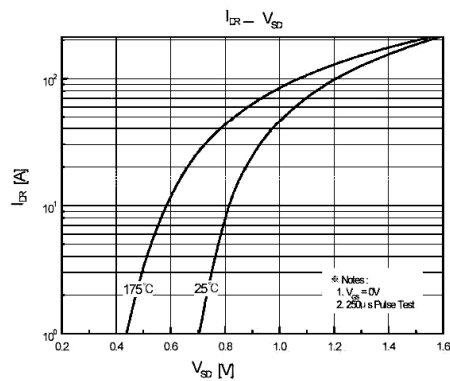
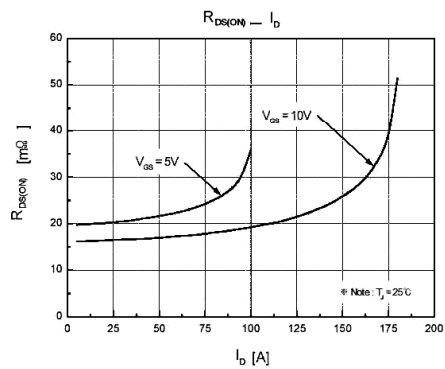
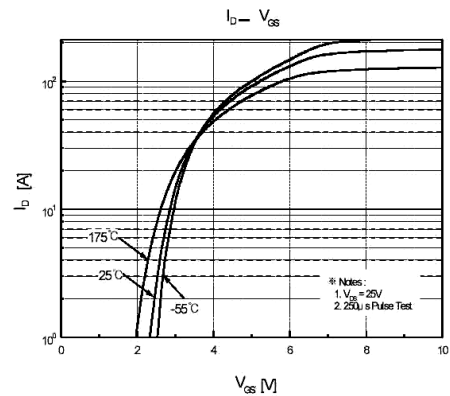
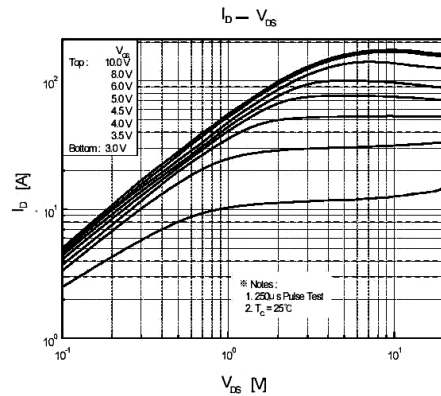
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DSS}	-60	V
Drain Current	I _D (Tc=25°C)	-50	A
Drain Current	I _D (Tc=100°C)	-35.4	A
Drain Current - Pulsed	I _{DM}	-200	A
Gate-Source Voltage	V _{GS}	±20	V
Single Pulsed Avalanche Energy	E _{AS}	490	mJ
Repetitive Avalanche Energy	E _{AR}	12	mJ
Power Dissipation	P _D (Tc=25°C)	85	W
Junction Temperature Range	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

Model	Marking	Package	shipping
MD50P06	50P06	TO-252	2500/Tape&Reel

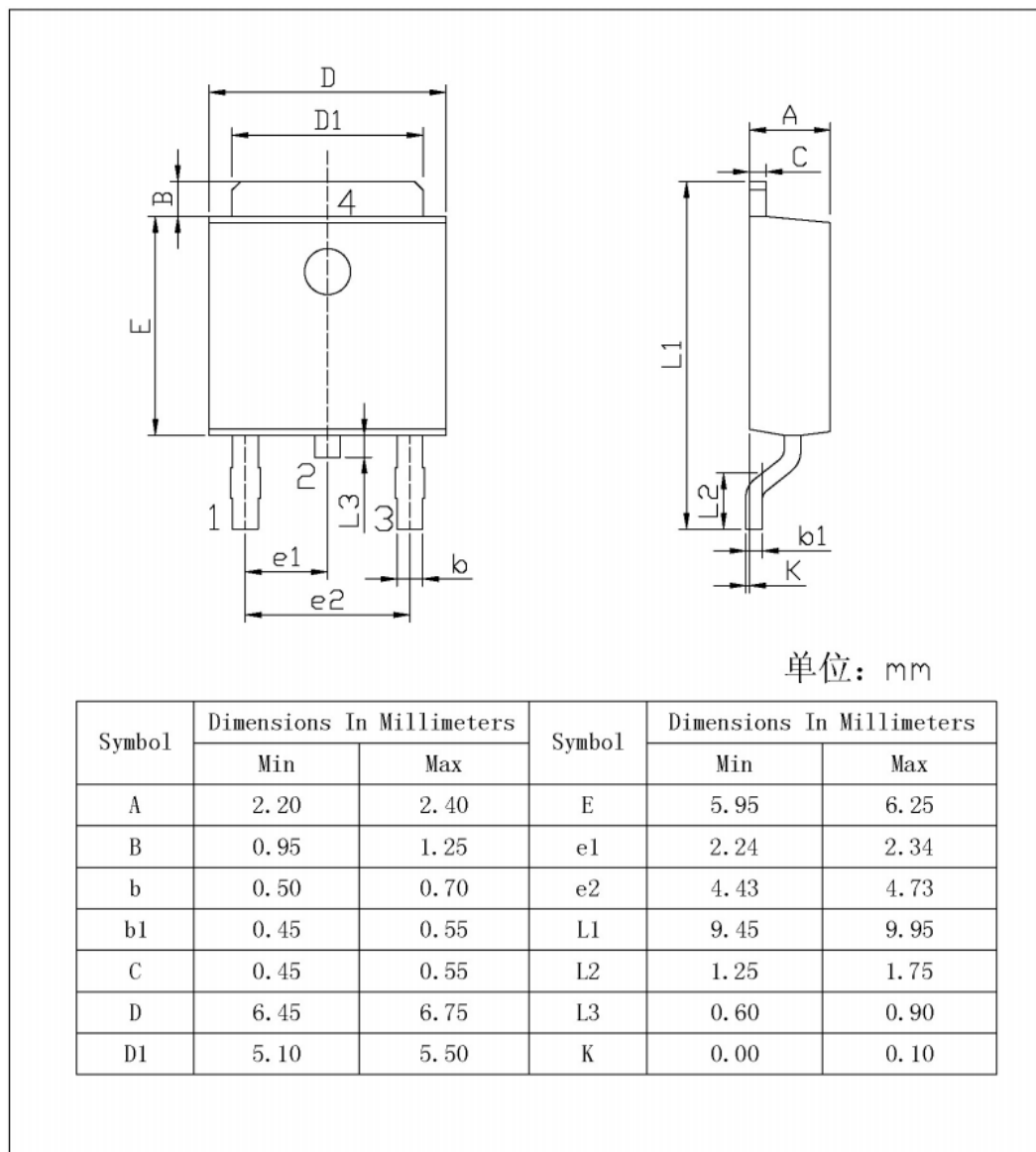
CHANNEL Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=-250\mu A$	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V$ $V_{GS}=0V$			-1.0	μA
		$V_{DS}=-48V$ $T_C=150^\circ C$			-10	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1		-3	V
Total Gate Charge	Q_g	$V_{DS}=-48V$ $I_D=-50A$ $V_{GS}=-10V$		32	42	nC
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-25A$		0.018	0.022	Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=-50A$			-1.5	V
Input Capacitance	C_{iss}	$V_{DS}=-25V$ $V_{GS}=0V$ $f=1.0MHz$		1050	1365	pF
Output Capacitance	C_{oss}			460	600	pF
Reverse Transfer Capacitance	C_{rss}			70	90	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=-30V$ $I_D=-25A$ $R_G=25\Omega$		20	50	ns
Turn-On Rise Time	t_r			100	210	ns
Turn-Off Delay Time	$t_{d(off)}$			80	170	ns
Turn-Off Fall Time	t_f			85	180	ns

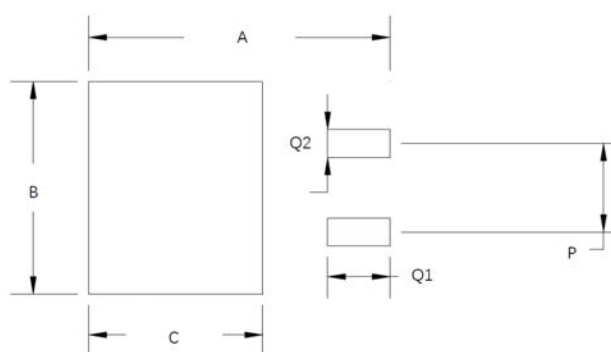
P-CHANNEL Electrical Characteristic Curve



Dimension outline Unit:mm



Suggested Pad Layout UNIT: mm



Dim	Millimeters
A	11.4
B	6.74
C	6.23
P	4.56
Q1	2.28
Q2	1.52