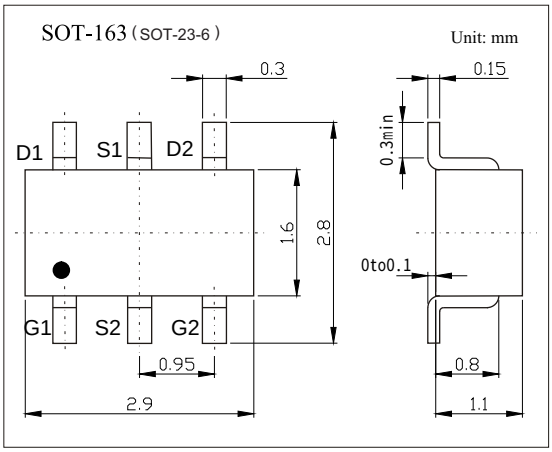
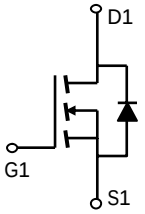
KE3587-G (ME3587-G)

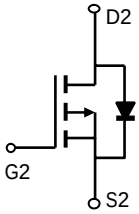
■ Features

- N-channel:VDS=20V ID=4A
- RDS(ON)<0.045Ω @VGS=4.5V
- RDS(ON)<0.068Ω @VGS=2.5V
- RDS(ON)<0.12Ω @VGS=1.8V
- P-channel:VDS=-20V ID=-2A
- RDS(ON)<0.11Ω @VGS=-4.5V
- RDS(ON)<0.13Ω @VGS=-2.5V
- RDS(ON)<0.17Ω @VGS=-1.8V





n-channel



p-channel

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Max N-Channel	Max P-Channel	Unit
Drain-Source Voltage	VDS	20	-20	V
Gate-Source Voltage	VGS	±8		
Drain-Current -Continuous	ID	4	-2	A
-Pulsed	IDM	+15	-10	
Power Dissipation	PD	1.15		W
Thermal Resistance,Junction- to-Ambient	RθJA	110		°C/W
Operating Junction and Storage Temperature Range	Tj.Tstg	–55 to +150		°C

KE3587-G (ME3587-G)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=+250uA,VGS=0	N-Ch	+20			V
		ID=-250uA,VGS=0	P-Ch	-20			
Zero Gate Voltage Drain Current	IDSS	VDS=20V,VGS=0V	N-Ch			1	μA
		VDS=-20V,VGS=0V	P-Ch			-1	
Gate-Body Leakage	IGSS	VGS=±10V,VDS=0V	N-Ch			±100	nA
		VGS=±10V,VDS=0V	P-Ch			±100	
Gate Threshold Voltage (NOTE 1)	VGS(th)	VGS=VDS,ID=250uA	N-Ch	0.5	0.75	1	V
		VGS=VDS,ID=-250uA	P-Ch	-0.5	-0.75	-1	
Drain- Source on-state Resistance (NOTE 1)	RDS(ON)	VGS=4.5V,ID=4A	N-Ch			0.045	Ω
		VGS=-4.5V,ID=-2.8A	P-Ch			0.11	
		VGS=2.5V,ID=3A	N-Ch			0.068	
		VGS=-2.5V,ID=-2.4A	P-Ch			0.13	
		VGS=1.8V,ID=2A	N-Ch			0.12	
		VGS=-1.8V,ID=-1.7A	P-Ch			0.17	
Forward Transconductance (NOTE 1)	gFS	VDS=5V,ID=4A	N-Ch	5			S
		VDS=-5V,ID=-2.3A	P-Ch	4			
Total Gate Charge	Qg	N-Channel VDS = 10 V, VGS = 4.5 V, ID = 4A P-Channel VDS = – 6V, VGS = – 4.5 V, ID = –2.8 A	N-Ch		11.2	14	nC
			P-Ch		9	11	
Gate-S ource Charge	Qgs		N-Ch		1.4		
			P-Ch		2.3		
Gate-Drain Charge	Qgd		N-Ch		2.2		
			P-Ch		2.0		
Input Capacitance	Ciss	N-Channel VDS = 10 V, VGS = 0 V, f = 1MHz P-Channel VDS = – 10V, VGS = 0 V, f = 1MHz	N-Ch		650	700	PF
			P-Ch		650	680	
Output Capacitance	Coss		N-Ch		175		
			P-Ch		120		
Reverse Transfer Capacitance	Crss		N-Ch		85		
			P-Ch		38		
Turn-On Delay Time	tD(on)	N-Channel VDS = 10 V, RL = 10 Ω ,ID = 1 A VGS = 4.5 V, RG = 6 Ω P-Channel VDS = - 6 V, RL = 3.6 Ω, ID = - 1 A VGS = - 4.5 V, RG = 6 Ω	N-Ch		9	25	ns
			P-Ch		38	45	
Rise Time	tr		N-Ch		17	60	
			P-Ch		25	30	
Turn-Off Delay Time	tD(off)		N-Ch		46	70	
			P-Ch		43	50	
Fall Time	tf		N-Ch		2.7	20	
			P-Ch		5	7	
Diode Forward Voltage	VSD	VGS=0V,IS=1A	N-Ch		0.8	1.0	V
		VGS=0V,IS=-1A	P-Ch		-0.85	-1.0	