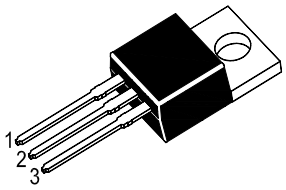
2SK1118

N-Channel Enhancement Mode Field Effect Transistor



1.Base 2.Collector 3.Emitter

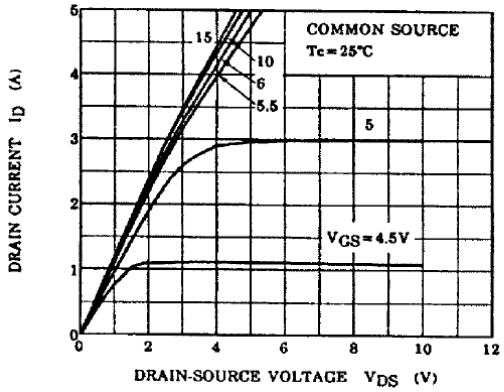
TO-220 Plastic Package

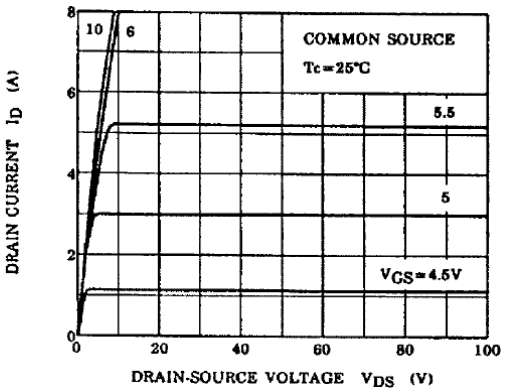
Absolute Maximum Ratings (T_a = 25℃)

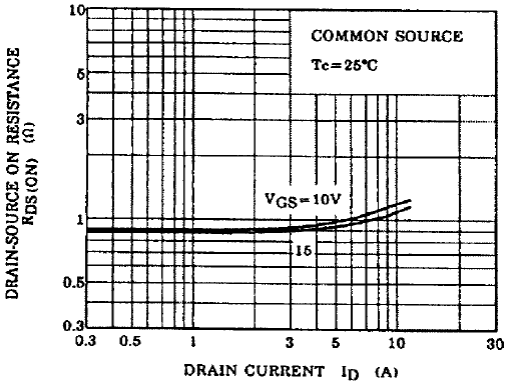
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	600	V
Collector Emitter Voltage	V_{CEO}	600	V
Emitter Base Voltage	V_{EBO}	± 30	V
Collector Current	I_C	6	A
Collector Current (Pulse)	I_{CP}	24	A
Power Dissipation (T_c = 25℃)	P_{tot}	45	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	62.5	℃/W
Thermal Resistance Junction to Case	$R_{\theta JC}$	2.77	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

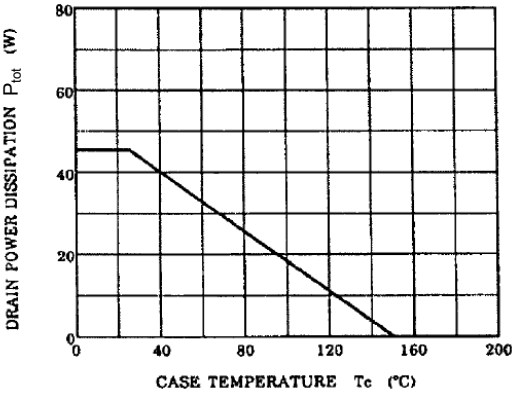
Electrical Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 10 mA	$V_{(BR)DSS}$	600	-	-	V
Drain-Source Leakage Current at V_{DS} = 600 V	I_{DSS}	-	-	300	μA
Gate-Source Leakage Current at V_{GS} = ± 25 V	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage at V_{DS} = 10 V, I_D = 1 mA	$V_{GS(th)}$	1.5	-	3.5	V
Drain-Source On-State Resistance at V_{GS} = 10 V, I_D = 3 A	$R_{DS(on)}$	-	-	1.25	Ω
Forward Transconductance at V_{DS} = 10 V, I_D = 3 A	g_{FS}	3	-	-	S
Input Capacitance at V_{DS} = 10 V, f = 1 MHz	C_{iss}	-	-	2000	pF
Output Capacitance at V_{DS} = 10 V, f = 1 MHz	C_{oss}	-	-	380	pF
Reverse Transfer Capacitance at V_{DS} = 10 V, f = 1 MHz	C_{rss}	-	-	120	pF
Turn-On Delay Time at V_{DD} = 300 V, V_{GS} = 10 V, I_D = 3 A, R_L = 100 Ω	$t_{d(on)}$	-	-	80	ns
Turn-On Rise Time at V_{DD} = 300 V, V_{GS} = 10 V, I_D = 3 A, R_L = 100 Ω	t_r	-	-	50	ns
Turn-Off Delay Time at V_{DD} = 300 V, V_{GS} = 10 V, I_D = 3 A, R_L = 100 Ω	$t_{d(off)}$	-	-	170	ns
Turn-Off Fall Time at V_{DD} = 300 V, V_{GS} = 10 V, I_D = 3 A, R_L = 100 Ω	t_f	-	-	40	ns

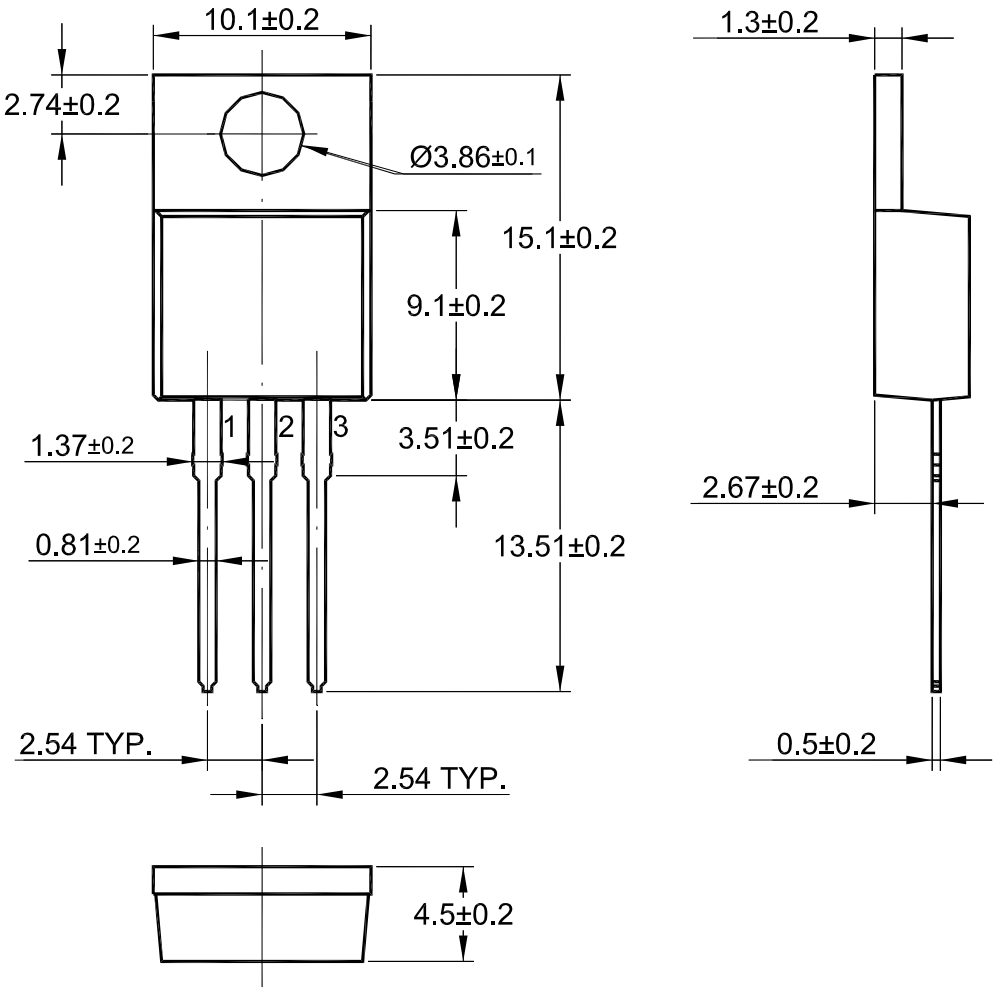

COMMON SOURCE
Tc=25°C
15
10
6
5.5
5
VGS=4.5V
DRAIN CURRENT ID (A)
DRAIN-SOURCE VOLTAGE VDS (V)


COMMON SOURCE
Tc=25°C
10
6
5.5
5
VGS=4.5V
DRAIN CURRENT ID (A)
DRAIN-SOURCE VOLTAGE VDS (V)


COMMON SOURCE
Tc=25°C
VGS=10V
15
DRAIN-SOURCE ON RESISTANCE RDS(ON) (Ω)
DRAIN CURRENT ID (A)


DRAIN POWER DISSIPATION Ptot (W)
CASE TEMPERATURE Tc (°C)

TO-220 Package Outline



Dimensions in mm