Ordering number:EN3458

N-Channel Silicon MOSFET

2SK1455

Ultrahigh-Speed Switching Applications

Features

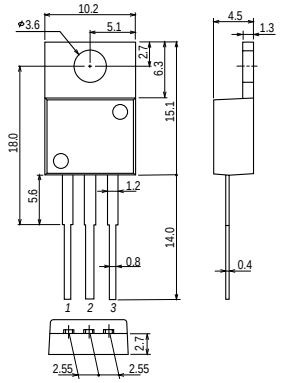
- Low ON-state resistance.
- Ultrahigh-speed switching.
- Converters.

Package Dimensions

unit:mm

2052C

[2SK1455]



1 : Gate
2 : Drain
3 : Source
EIAJ : SC-46
SANYO : TO-220AB

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		900	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current (DC)	I_D		0.2	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	0.4	A
Allowable Power Dissipation	P_D	Tc=25°C	30	W
			1.75	W
Channel Temperature	Tch		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0	900			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=900V, V_{GS}=0			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±30V, V_{DS}=0			±100	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V, I_D=1mA	2.0		3.0	V
Forward Transfer Admittance	| yfs |	V_{DS}=20V, I_D=0.1A	0.08	0.15		S
Static Drain-to-Source ON-State Resistance	$R_{DS(on)}$	I_D=0.1A, V_{GS}=10V		50	70	Ω

(Note) Be careful in handling the 2SK1455 because it has no protection diode between gate and source.

Continued on next page.

SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		45		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		25		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		10		pF
Turn-ON Delay Time	$t_{d(on)}$	I_D=0.1A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50Ω		10		ns
Rise Time	t_r	I_D=0.1A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50Ω		15		ns
Turn-OFF Delay Time	$t_{d(off)}$	I_D=0.1A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50Ω		30		ns
Fall Time	t_f	I_D=0.1A, V_{GS}=10V, V_{DD}=200V, R_{GS}=50Ω		180		ns
Diode Forward Voltage	V_{SD}	I_S=0.2A, V_{GS}=0			1.8	V

Switching Time Test Circuit