

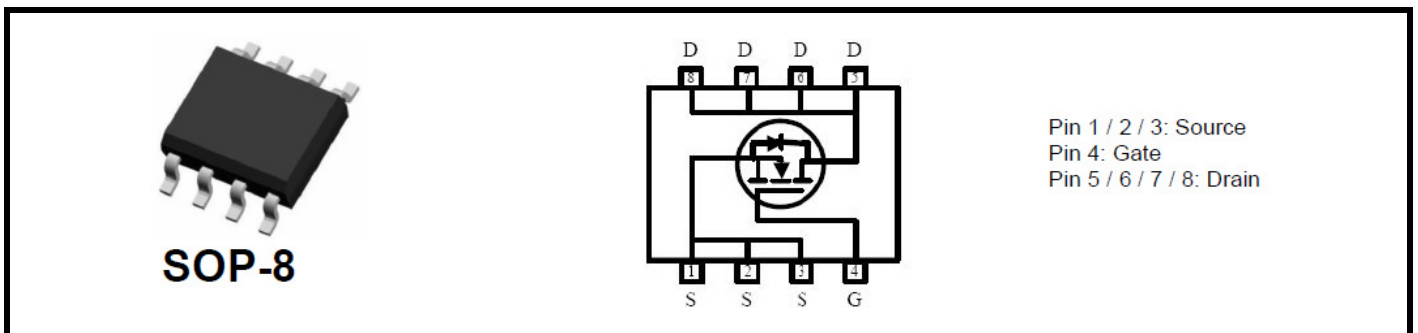
N-Channel Enhancement-Mode MOSFET (30V,10A)

PRODUCT SUMMARY




V _{DSS}	I _D	R _{DS(on)} (m-ohm) Max
30V	10A	15 @ V _{GS} = 10V, I _D =10A
		24 @ V _{GS} = 4.5V, I _D =5A

◆ Features

- 1、 Advanced Trench Process Technology.
- 2、 High Density Cell Design for Ultra Low On-Resistance.
- 3、 Lead free product is acquired.
- 4、 Surface mount Package
- 5、 RoHS Compliant.



◆ Ordering Information

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		4	1/2/3	5/6/7/8	
SM4410PRL	SM4410PRG	SOP-8	G	S	D	Tape Reel
<p style="text-align: center;">SM4410X X X</p> <p>(1)Package Type </p> <p>(2)Packing Type </p> <p>(3)Lead Free </p>		<p>(1) P: SOP-8</p> <p>(2) R: Tape Reel</p> <p>(3) G: Halogen Free; L: Lead Free</p>				



◆ Absolute Maximum Ratings ($T_A=25^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 12	V
I_D	Continuous Drain Current	11	A
I_{DM}	Drain Current (Pulsed) [†]	50	A
I_S	Drain-Source Diode Forward Current ^a	2.6	A
P_D	Total Power Dissipation @ $T_A=25^\circ\text{C}$	3	W
T_j, T_{stg}	Operating Junction and Storage Temperature Range	-55 to +150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	100	$^\circ\text{C/W}$

Note

a: Repetitive Rating: Pulse width limited by the maximum junction temperature .

b: 1 Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

◆ Electrical Characteristics ($T_A=25^\circ\text{C}$, unless otherwise noted)

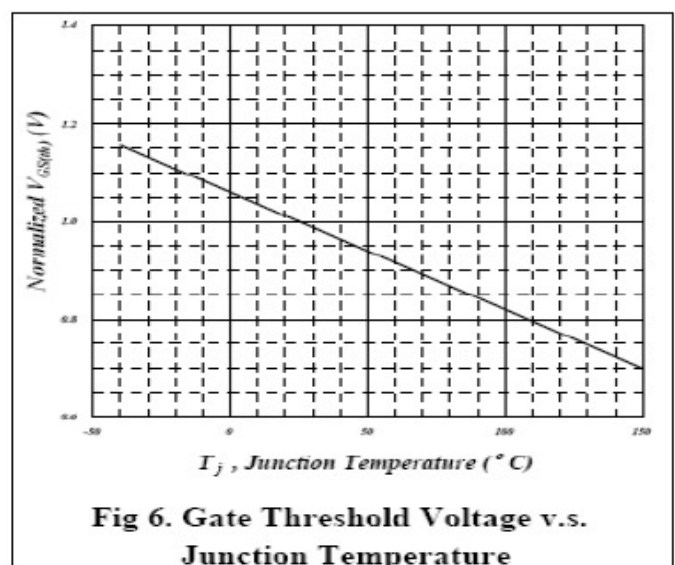
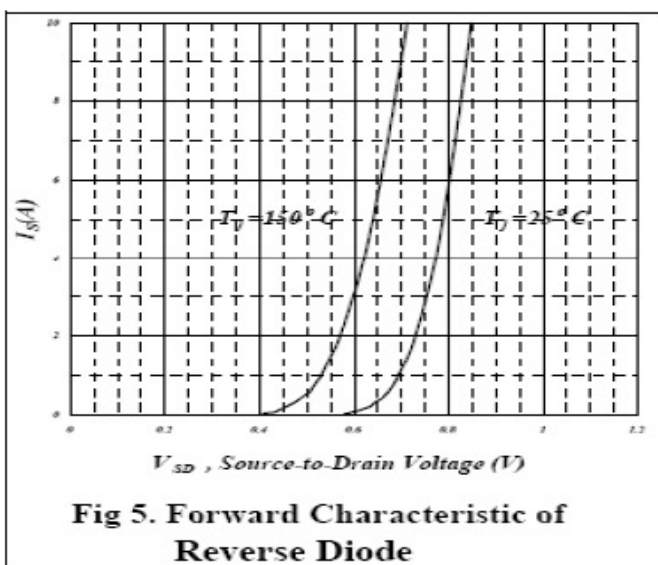
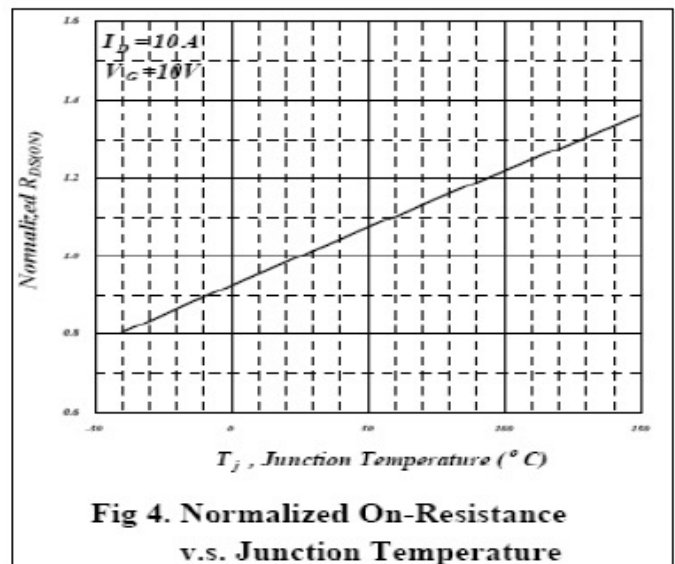
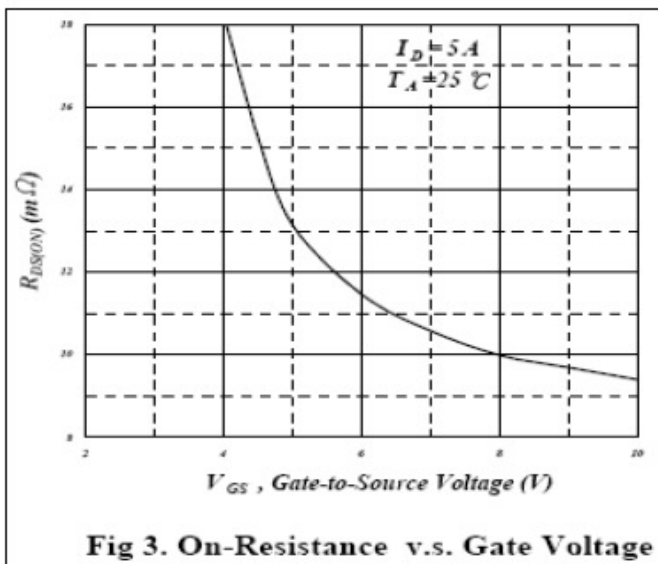
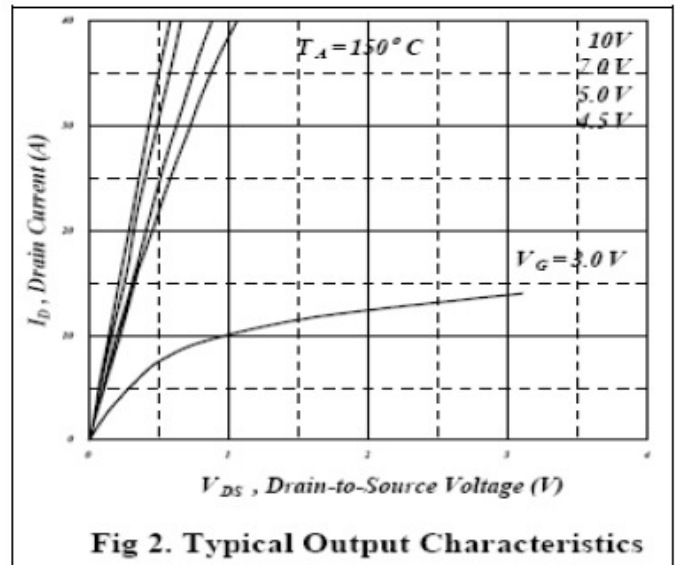
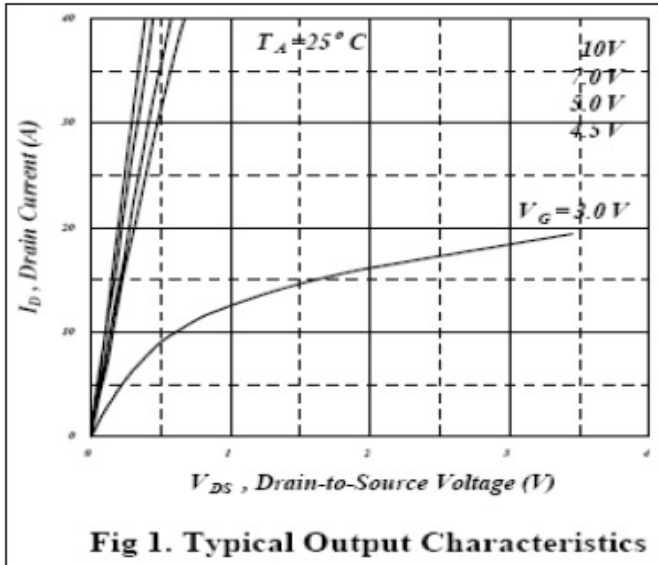
Symbol	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
· Off Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=30\text{V}, V_{GS}=0\text{V}$	-	-	1	μA
		$V_{DS}=24\text{V}, V_{GS}=0\text{V}, T_J=70^\circ\text{C}$	-	-	25	
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$	-	-	± 100	nA
· On Characteristics^c						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1	-	3	V
$R_{DS(on)}$	Drain-Source On-State Resistance	$V_{GS}=10\text{V}, I_D=10\text{A}$	-	-	15	m Ω
		$V_{GS}=4.5\text{V}, I_D=5\text{A}$	-	-	24	
g_{FS}	Forward Transconductance	$V_{DS}=10\text{V}, I_D=9\text{A}$	-	9	-	S
· Dynamic Characteristics^d						
C_{iss}	Input Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0\text{V}$ $f = 1.0\text{ MHz}$	-	890	-	μF
C_{oss}	Output Capacitance		-	159.6	-	
C_{rss}	Reverse Transfer Capacitance		-	83.2	-	
R_g	Gate resistance	$V_{DS}=0\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$	-	2	3	Ω
· Switching Characteristics^d						
Q_g	Total Gate Charge	$V_{DS} = 15\text{V}, I_D = 10\text{A}$ $V_{GS} = 5\text{V}$	-	7.7	10.01	nC
Q_{gs}	Gate-Source Charge		-	1.6	2.08	
Q_{gd}	Gate-Drain Charge		-	3.1	4.03	
$t_{d(on)}$	Turn-on Delay Time	$V_{DD} = 15\text{V}, I_D = 10\text{A}$ $V_{GEN} = 10\text{V}, R_G = 0.3\Omega$	-	11.1	22.2	nS
t_r	Turn-on Rise Time		-	8.4	16.8	
$t_{d(off)}$	Turn-off Delay Time		-	25.3	50.6	
t_f	Turn-off Fall Time		-	2.8	5.6	
t_{rr}	Body Diode Reverse Recovery Time	$I_F=9\text{A}, dI/dt=100\text{A}/\mu\text{S}$	-	24	-	nS
Q_{rr}	Body Diode Reverse Recovery Charge	$I_F=9\text{A}, dI/dt=100\text{A}/\mu\text{S}$	-	14	-	nC
· Drain-Source Diode Characteristics						
V_{SD}	Drain-Source Diode Forward Voltage	$V_{GS}=0\text{V}, I_S=2.6\text{A}$	-	0.76	1.2	V

Note:

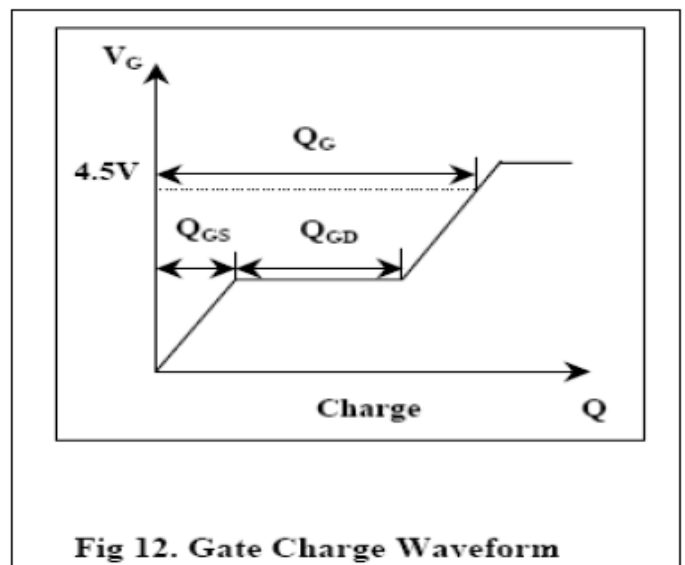
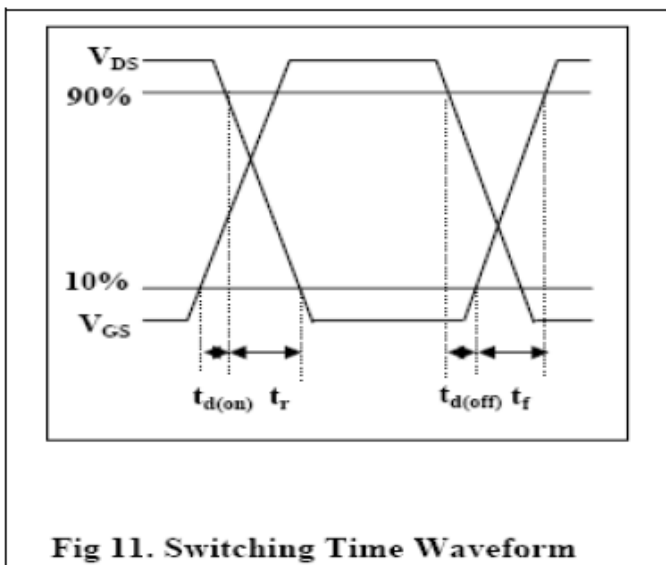
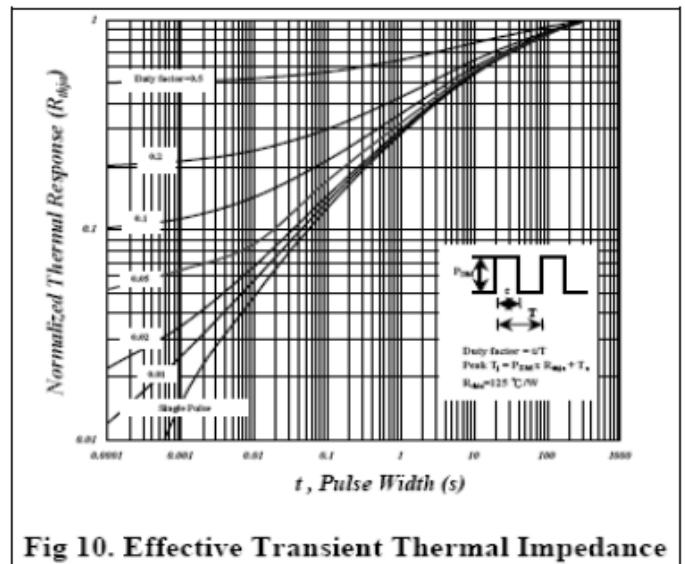
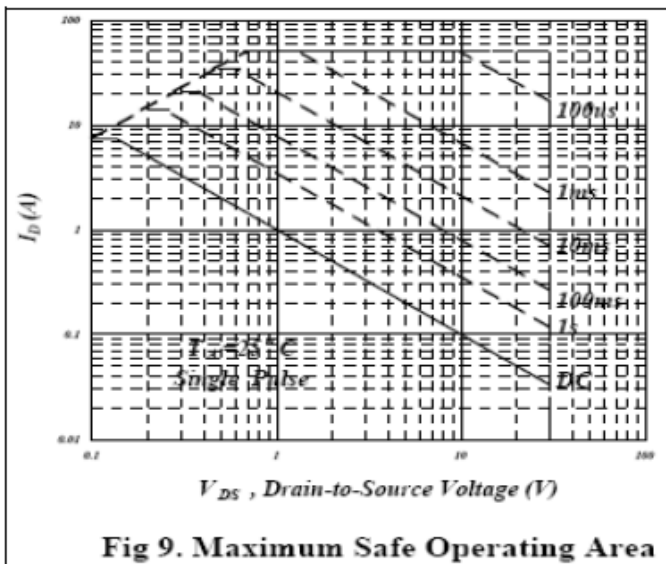
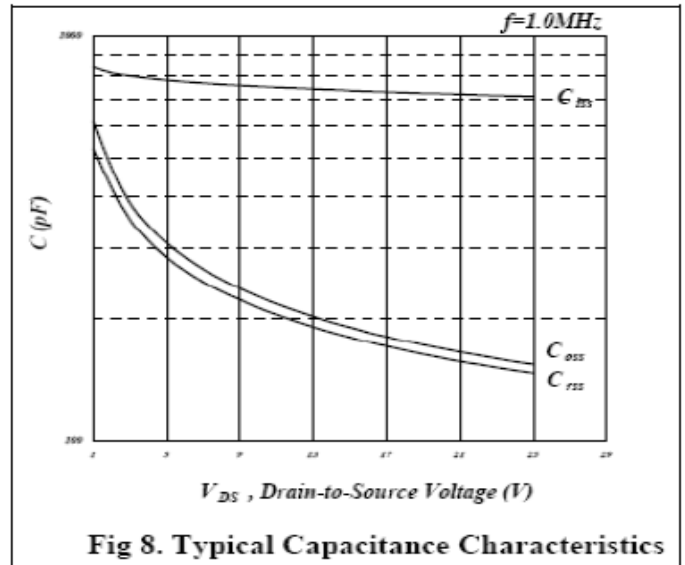
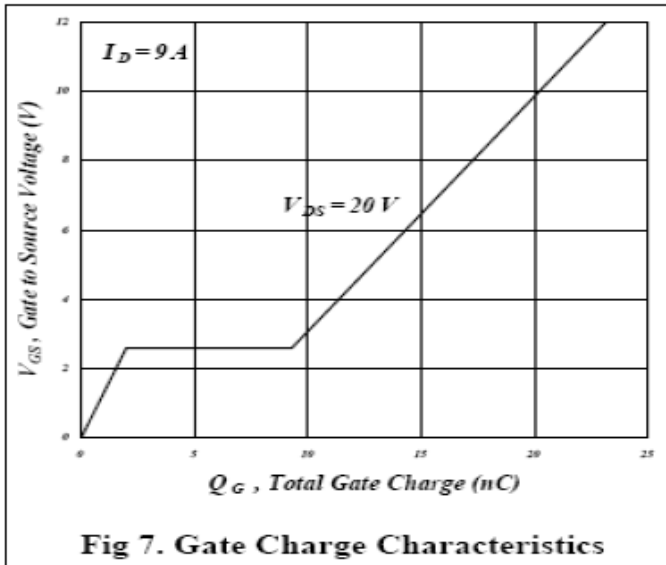
c : Pulse Test : Pulse Width < 300 μs , Duty Cycle < 2%.

d: Guaranteed by design, not subject to production testing.

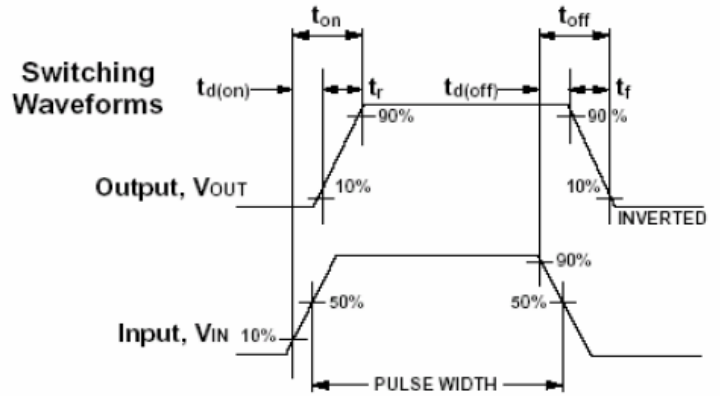
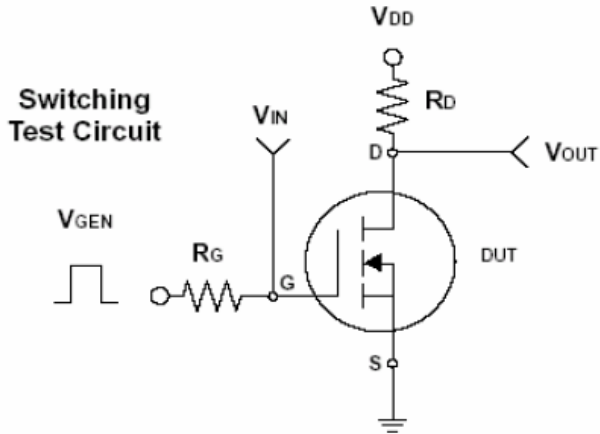
◆ Characteristics Curve



◆ Characteristics Curve



◆ Characteristics Curve



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [SPS](#) manufacturer:

Other Similar products are found below :

[614233C](#) [648584F](#) [NTNS3A92PZT5G](#) [IRFD120](#) [IRFF430](#) [JANTX2N5237](#) [2N7000](#) [2SK2464-TL-E](#) [FCA20N60_F109](#) [FDZ595PZ](#) [AOD464](#)
[2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#) [405094E](#) [423220D](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#) [SSM6J414TU,LF\(T](#) [751625C](#)
[IPP60R600P6XKSA1](#) [RJK60S5DPK-M0#T0](#) [BSC884N03MS G](#) [BSF024N03LT3 G](#) [PSMN4R2-30MLD](#) [TK31J60W5,S1VQ\(O](#)
[2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#) [FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE2384](#) [NTE2969](#)
[NTE6400A](#) [DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-7B](#)
[IPS60R3K4CEAKMA1](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [STU5N65M6](#) [C3M0021120D](#) [DMN13M9UCA6-7](#)
[BSS340NWH6327XTSA1](#)