

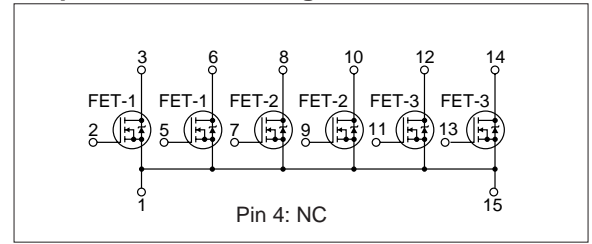
Absolute maximum ratings

($T_a=25^\circ\text{C}$)

Symbol	Ratings			Unit
	FET1	FET2	FET3	
V_{DSS}	150			V
V_{GSS}	+20, -10			V
I_D	± 7	± 5	± 7	A
$I_D(\text{pulse})^*$	± 15	± 10	± 15	A
P_T	5 ($T_a=25^\circ\text{C}$, with all circuits operating, without heatsink)			W
	35 ($T_c=25^\circ\text{C}$, with all circuits operating, with infinite heatsink)			W
θ_{j-a}	25 (Junction-Air, $T_a=25^\circ\text{C}$, with all circuits operating)			$^\circ\text{C}/\text{W}$
θ_{j-c}	3.57 (Junction-Case, $T_c=25^\circ\text{C}$, with all circuits operating)			$^\circ\text{C}/\text{W}$
V_{ISO}	1000 (Between fin and lead pin, AC)			V _{rms}
T_{ch}	150			$^\circ\text{C}$
T_{stg}	-40 to +150			$^\circ\text{C}$

* $PW \leq 100\mu\text{s}$, duty $\leq 50\%$

Equivalent circuit diagram



Electrical characteristics

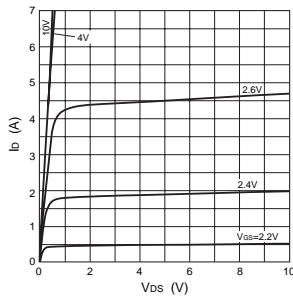
($T_a=25^\circ\text{C}$)

Symbol	FET1				FET2				FET3						
	Specification			Unit	Specification			Unit	Specification			Unit			
	min	typ	max		min	typ	max		min	typ	max				
$V_{(BR)DSS}$	150			V	$I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$	150			V	$I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$	150			V	$I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$
I_{GSS}			100	nA	$V_{GS}=20\text{V}$			100	nA	$V_{GS}=20\text{V}$			100	nA	$V_{GS}=20\text{V}$
I_{DSS}			100	μA	$V_{DS}=150\text{V}$, $V_{GS}=0\text{V}$			100	μA	$V_{DS}=150\text{V}$, $V_{GS}=0\text{V}$			100	μA	$V_{DS}=150\text{V}$, $V_{GS}=0\text{V}$
V_{TH}	1.0		2.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$	1.0		2.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$	1.0		2.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$
$R_{e(yfs)}$	7	12		S	$V_{DS}=10\text{V}$, $I_D=3.5\text{A}$	3	5.5		S	$V_{DS}=10\text{V}$, $I_D=2.5\text{A}$	4	9		S	$V_{DS}=10\text{V}$, $I_D=3.5\text{A}$
$R_{DS(ON)}$		80	105	m Ω	$V_{GS}=10\text{V}$, $I_D=3.5\text{A}$	330	440		m Ω	$V_{GS}=10\text{V}$, $I_D=2.5\text{A}$	150	200		m Ω	$V_{GS}=10\text{V}$, $I_D=3.5\text{A}$
		85	115	m Ω	$V_{GS}=4\text{V}$, $I_D=3.5\text{A}$	370	480		m Ω	$V_{GS}=4\text{V}$, $I_D=2.5\text{A}$	170	230		m Ω	$V_{GS}=4\text{V}$, $I_D=3.5\text{A}$
C_{iss}		1600		pF	$V_{DS}=10\text{V}$			380	pF	$V_{DS}=10\text{V}$			870	pF	$V_{DS}=10\text{V}$
C_{oss}		380		pF	$f=1.0\text{MHz}$			95	pF	$f=1.0\text{MHz}$			320	pF	$f=1.0\text{MHz}$
C_{rss}		90		pF	$V_{GS}=0\text{V}$			25	pF	$V_{GS}=0\text{V}$			210	pF	$V_{GS}=0\text{V}$
$t_{d(on)}$		35		ns	$I_D=3.5\text{A}$			25	ns	$I_D=2.5\text{A}$			25	ns	$I_D=3.5\text{A}$
t_r		70		ns	$V_{DD} \approx 70\text{V}$			50	ns	$V_{DD} \approx 70\text{V}$			55	ns	$V_{DD} \approx 70\text{V}$
$t_{d(off)}$		125		ns	$R_L=20\Omega$			55	ns	$R_L=28\Omega$			80	ns	$R_L=20\Omega$
t_f		90		ns	$V_{GS}=5\text{V}$			40	ns	$V_{GS}=5\text{V}$			50	ns	$V_{GS}=5\text{V}$
V_{SD}	1.0	1.5		V	$I_{SD}=7\text{A}$, $V_{GS}=0\text{V}$	1.1	1.5		V	$I_{SD}=5\text{A}$, $V_{GS}=0\text{V}$	1.0	1.5		V	$I_{SD}=7\text{A}$, $V_{GS}=0\text{V}$
t_{rr}		320		ns	$I_F=\pm 100\text{mA}$	180			ns	$I_F=\pm 100\text{mA}$	500			ns	$I_F=\pm 100\text{mA}$

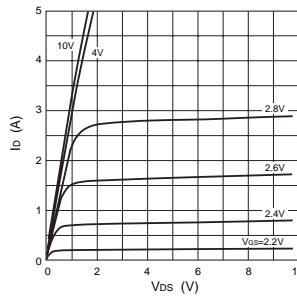
Characteristic curves

I_D - V_{DS} Characteristics (Typical)

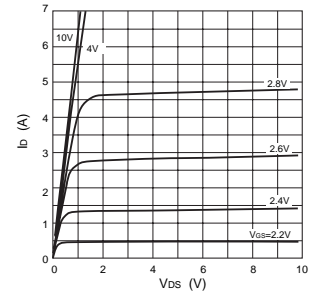
FET1



FET2

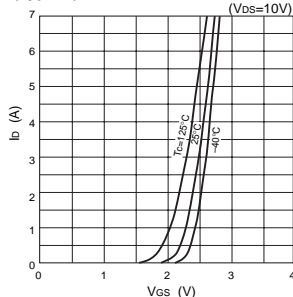


FET3

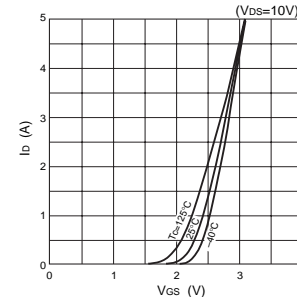


I_D - V_{GS} Characteristics (Typical)

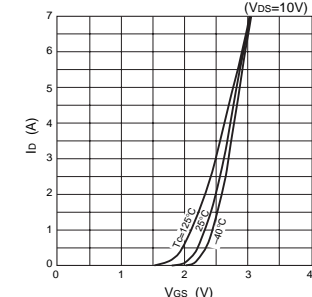
FET1



FET2

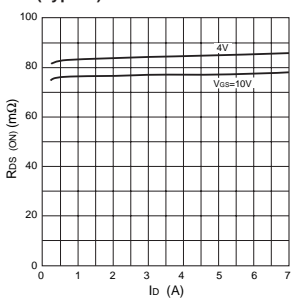


FET3

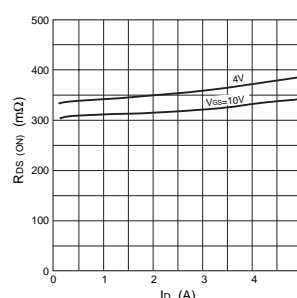


$R_{DS(ON)}$ - I_D Characteristics (Typical)

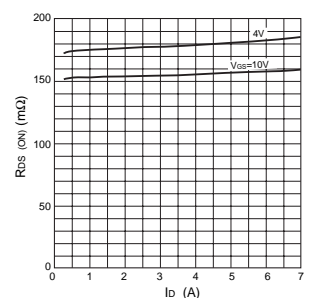
FET1



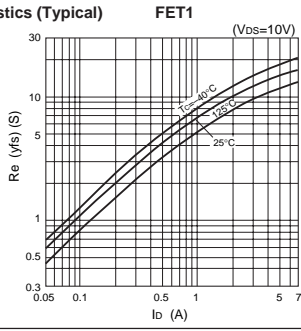
FET2



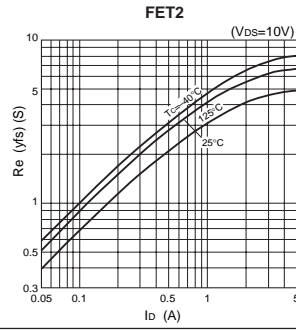
FET3



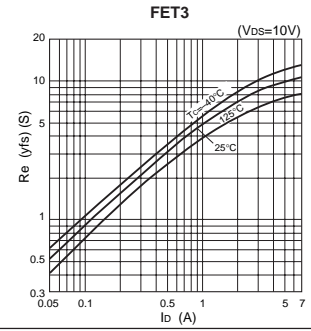
Re(yfs)-Id Characteristics (Typical)



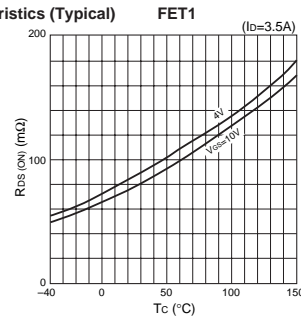
FET2



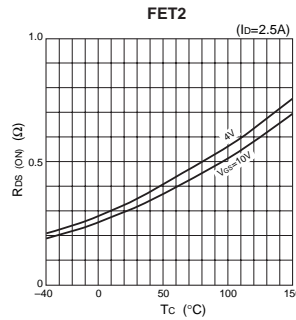
FET3



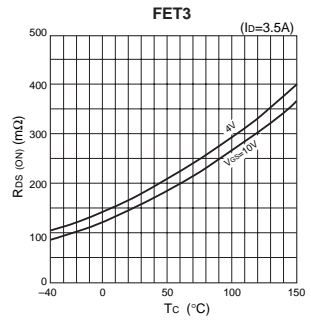
RDS(on)-Tc Characteristics (Typical)



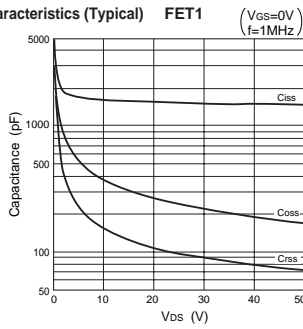
FET2



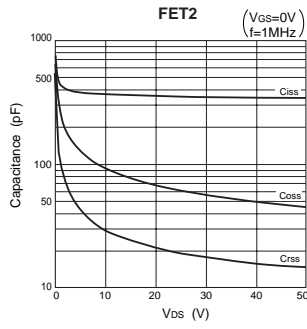
FET3



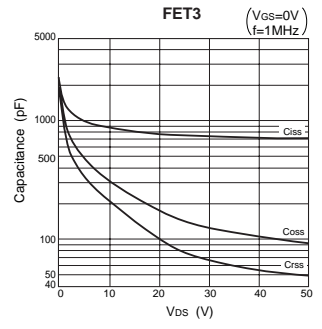
Capacitance-Vds Characteristics (Typical)



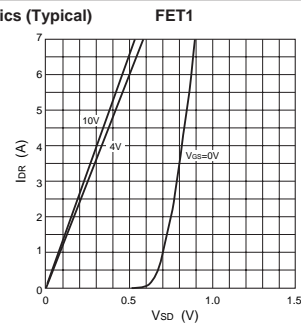
FET2



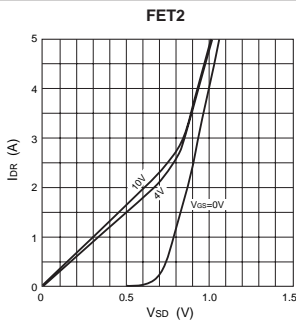
FET3



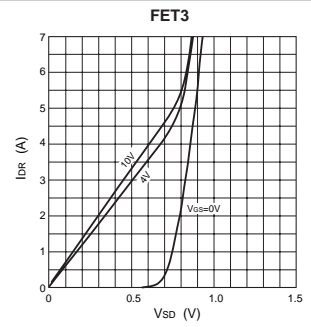
IDR-Vsd Characteristics (Typical)



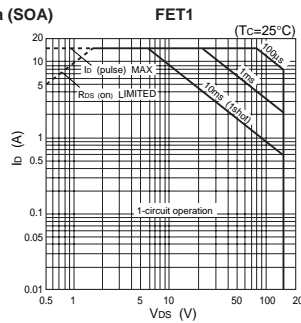
FET2



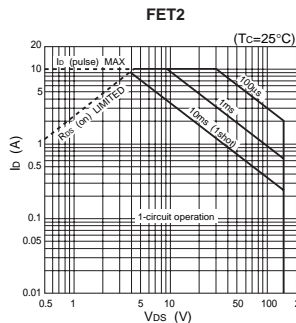
FET3



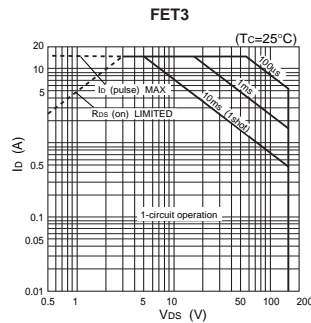
Safe Operating Area (SOA)



FET2



FET3



Pr-Ta Characteristics

