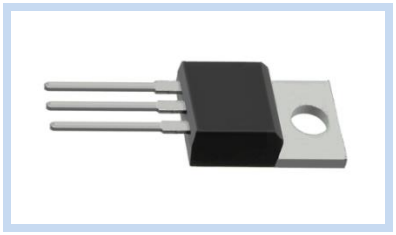
N-Channel MOSFET
40V 200A 166W TO-220

MFT4N200T220

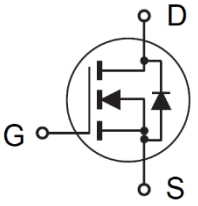
MERITEK

FEATURE



- $R_{DS(ON)}$ =2.3mΩ, V_{GS}=10V, I_D=200A
- $R_{DS(ON)}$ =2.5mΩ, V_{GS}=9V, I_D=200A
- Super High Dense Cell Design For Extremely Low $R_{DS(ON)}$
- High Power and Current Handling Capability

MECHANICAL DATA



RoHS

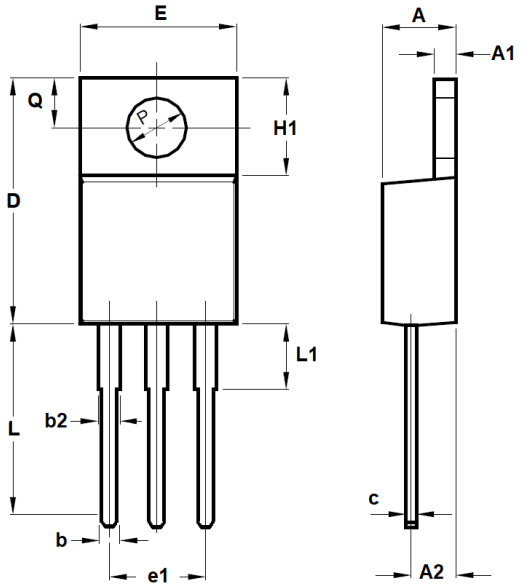
- Case: TO-220 Package
- Terminal: Solderable per MIL-STD-750, Method 2026

MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	40	V
Gate-Source Voltage		V_{GS}	±20	V
Drain Current – Continuous	T_C=25°C	I_D	200	A
	T_C=100°C		126	A
Drain Current – Pulsed	T_C=25°C	I_{DM}	800	A
Single Pulse Avalanche Energy		E_{AS}	760	mJ
Single Pulse Avalanche Current		I_{AS}	39	A
Power Dissipation	T_C=25°C	P_D	166	W
	Derate above 25°C		1.32	W/°C
Thermal Resistance Junction to Ambient		$R_{\theta JA}$	62.5	°C/W
Thermal Resistance Junction to Case		$R_{\theta JC}$	0.75	°C/W
Operating Junction and Storage Temperature		T_J, T_{STG}	-55 ~ 150	°C

DIMENSIONS

Item	Min. (mm)	Max. (mm)
A	4.320	4.826
A1	1.220	1.397
A2	2.032	2.921
b	0.610	0.910
b2	1.143	1.778
c	0.356	0.530
D	14.224	16.510
E	9.652	10.668
e1	5.080	5.080
H1	5.842	6.858
L	12.700	14.732
L1	3.400	4.000
Q	2.540	3.429

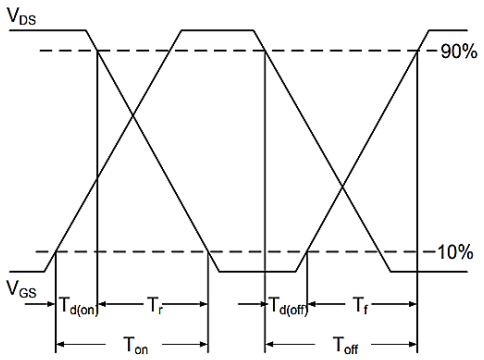


ELECTRICAL CHARACTERISTICS

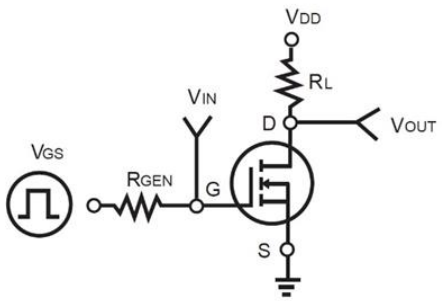
Off Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250μA	BV_{DSS}	40	--	--	V
Drain-Source Leakage Current	V_{DS}=40V, V_{GS}=0V	I_{DSS}	--	--	1	μA
Gate Leakage Current, Forward	V_{GS}=20V, V_{DS}=0V	I_{GSSF}	--	--	±100	nA
Gate Leakage Current, Reverse	V_{GS}= -20V, V_{DS}=0V	I_{GSSR}	--	--	-100	
On Characteristics	**Conditions**	**Symbol**	**Min**	**Typ.**	**Max**	**Unit**
Static Drain-Source On-Resistance	V_{GS}=10V, I_D=30A	$R_{DS(ON)}$	--	1.8	2.3	mΩ
	V_{GS}=9V, I_D=30A		--	1.9	2.5	
Gate Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	$V_{GS(th)}$	2	--	4	V
Dynamic Characteristics	**Conditions**	**Symbol**	**Min**	**Typ.**	**Max**	**Unit**
Total Gate Charge	V_{DS}=15V, V_{GS}=10V, I_D=50A	Q_g	--	235	--	nC
Gate-Source Charge		Q_{gs}	--	47	--	
Gate-Drain Charge		Q_{gd}	--	88	--	
Turn-On Delay Time	V_{DD}=15V, R_G=1Ω I_D=15A, V_{GS}=10V	$T_{d(on)}$	--	44	--	ns
Rise Time		T_r	--	35	--	
Turn-Off Delay Time		$T_{d(off)}$	--	79	--	
Fall Time		T_f	--	33	--	
Input Capacitance	V_{DS}=15V, V_{GS}=0V, F=1MHz	C_{iss}	--	6120	--	pF
Output Capacitance		C_{oss}	--	1715	--	
Reverse Transfer Capacitance		C_{rss}	--	1330	--	
Drain-Source Body Diode	**Conditions**	**Symbol**	**Min**	**Typ.**	**Max**	**Unit**
Diode Forward Current-Continuous	--	I_S	--	--	138	A
Diode Forward Voltage	V_{GS}=0V, I_S=30A	V_{SD}	--	--	1.2	V

Note:
1. L=1mH, I_{AS}=39A, V_{DD}=24V, R_G=25Ω, Starting T_J=25°C
2. Pulse Width≤300uS, Duty Cycle≤2%
3. Essentially Independent of operating temperature typical characteristics.
4. Guaranteed by design, not subject to production testing.

Switching Time Waveform

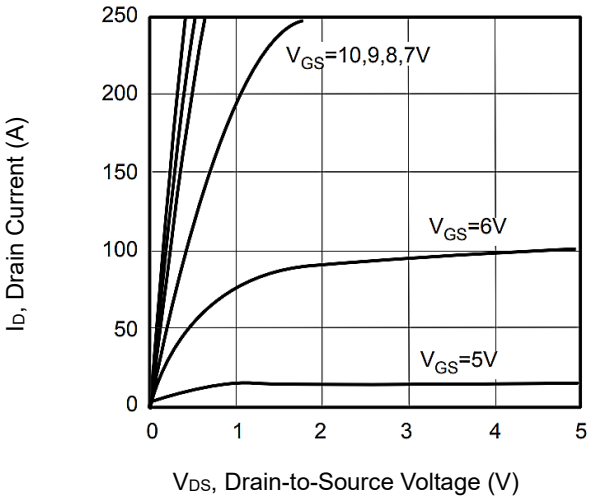


Switching Test Circuit

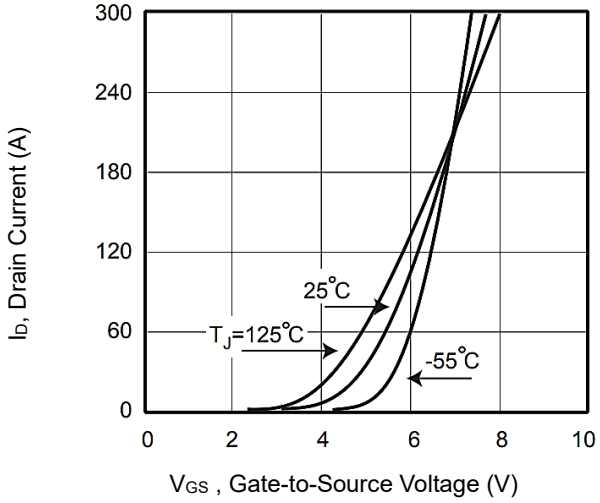


CHARACTERISTICS CURVES

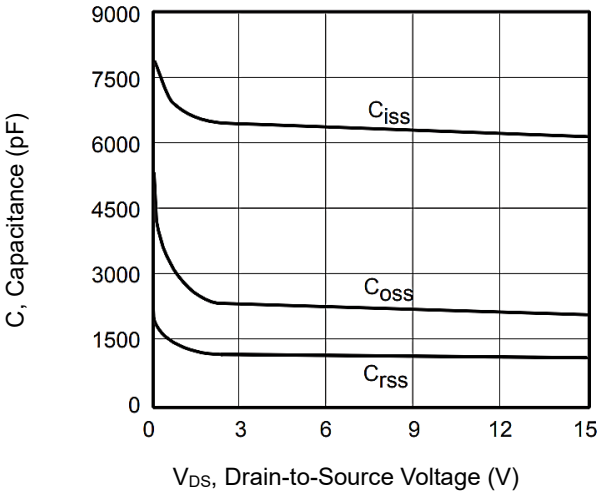
Output Characteristics



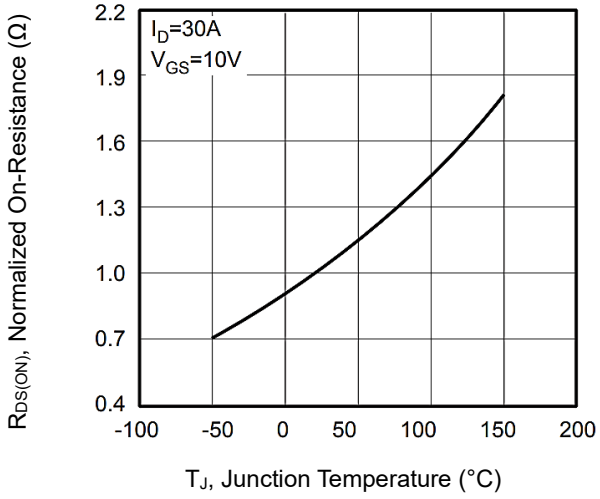
Transfer Characteristics



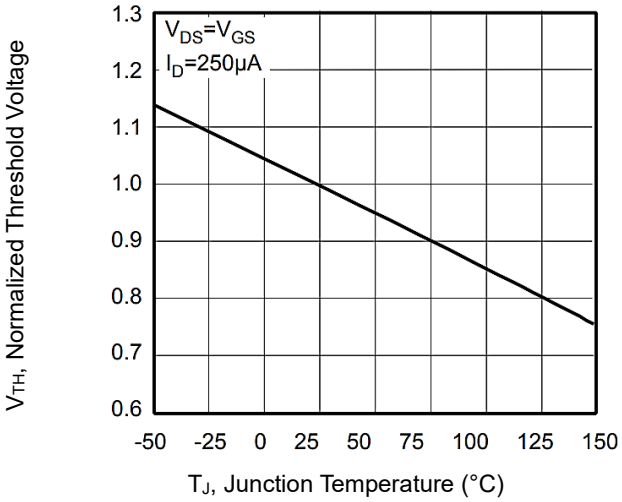
Capacitance



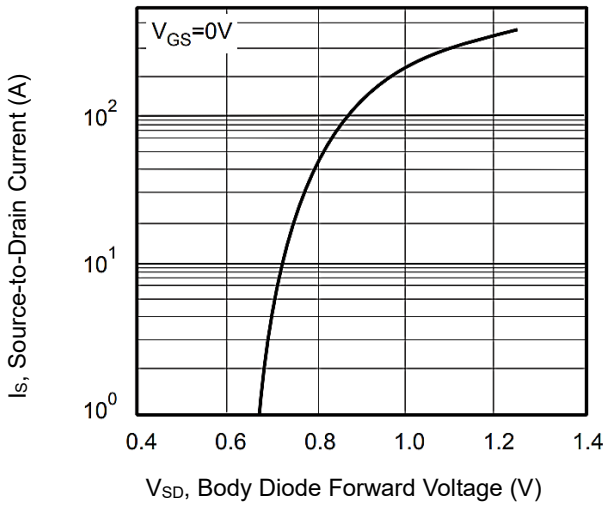
On-Resistance vs Junction Temperature



Gate Threshold Variation with Temperature

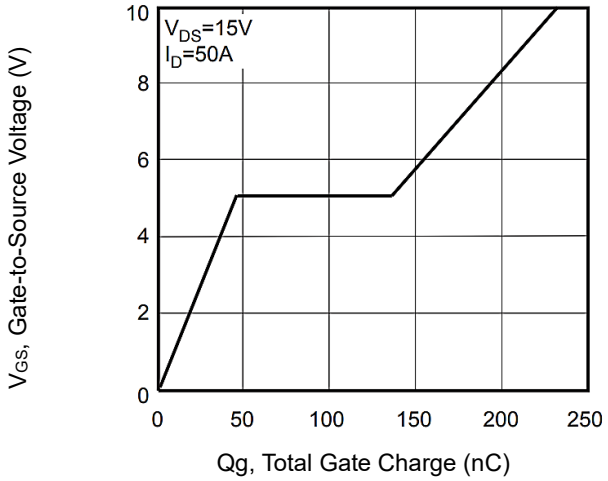


Body Diode Forward Voltage

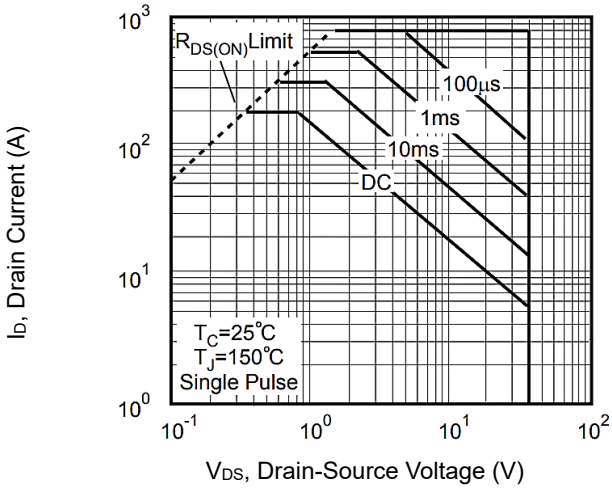


CHARACTERISTICS CURVES

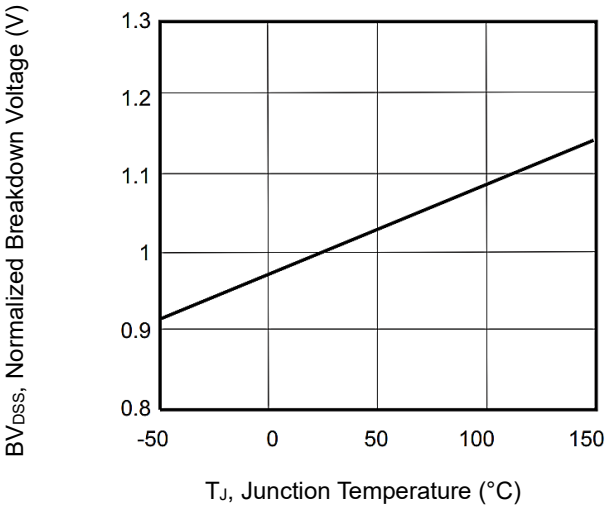
Gate Charge



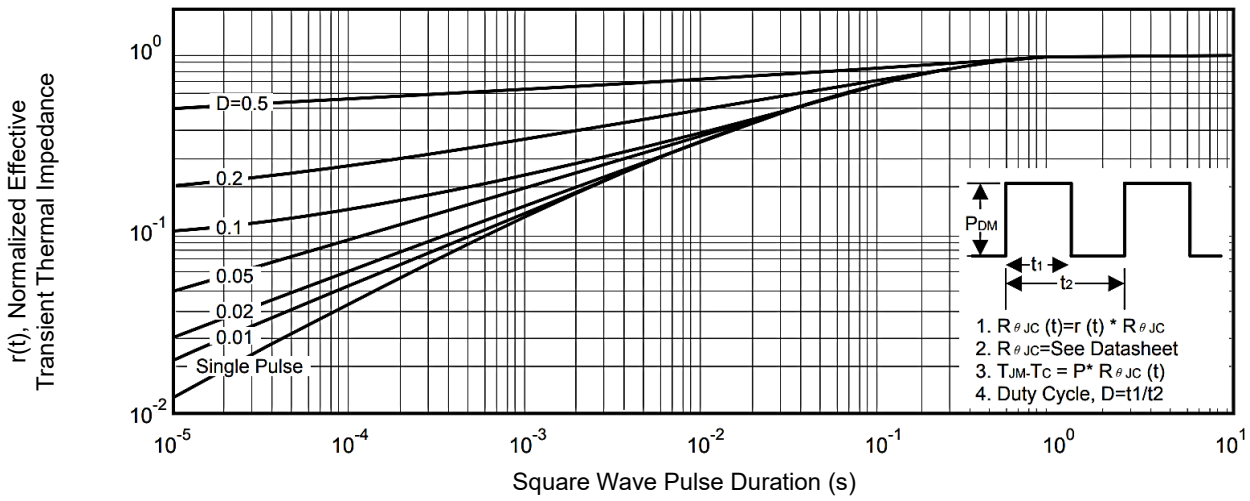
Maximum Safe Operating Area



Breakdown Voltage Variation vs Temperature



Normalized Transient Thermal Impedance Curves



ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.