NIKO-SEM

N-Channel Enhancement Mode Field Effect Transistor

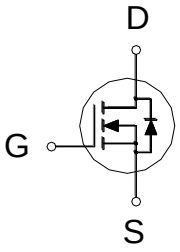
PE618BA

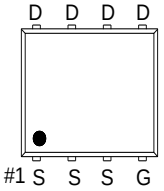
PDFN 3x3P

Halogen-Free & Lead-Free

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	6mΩ	40A





G. GATE
D. DRAIN
S. SOURCE

RoHS Compliant

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current[2]	T_C = 25 °C	I_D	40	A
	T_C = 100 °C		25	
Pulsed Drain Current[1]		I_{DM}	100	
Continuous Drain Current	T_A = 25 °C	I_D	12	
	T_A = 70 °C		10	
Avalanche Current		I_{AS}	30	
Avalanche Energy	L = 0.1mH	E_{AS}	46	mJ
Power Dissipation	T_C = 25 °C	P_D	17.8	W
	T_C = 100 °C		7	
Power Dissipation	T_A = 25 °C	P_D	1.6	W
	T_A = 70 °C		1	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient[3]	$R_{\theta JA}$		77	°C / W
Junction-to-Case	$R_{\theta JC}$		7	

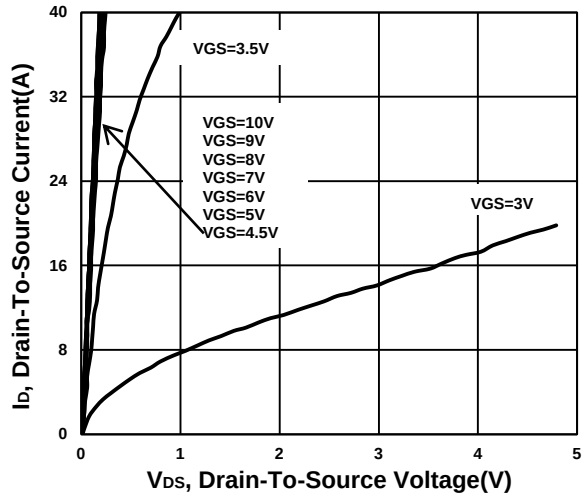
[1]Pulse width limited by maximum junction temperature.
[2]Package limitation current is 22A
[3]The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

ELECTRICAL CHARACTERISTICS (T_J = 25 °C, Unless Otherwise Noted)

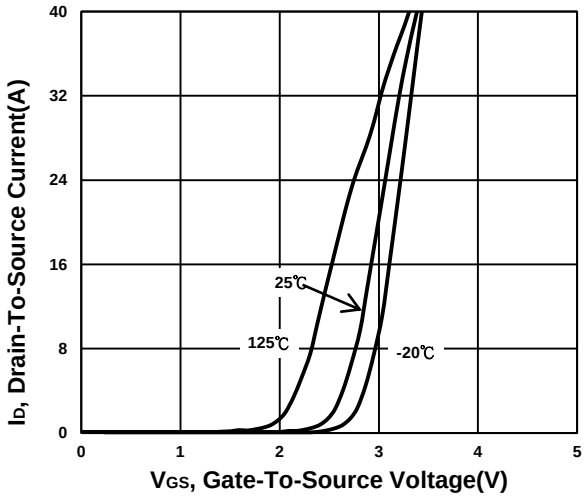
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS MIN	LIMITS TYP	LIMITS MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1.3	1.8	2.35	V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 24V, V_{GS} = 0V			1	μA
		V_{DS} = 20V, V_{GS} = 0V, T_J = 55 °C			10	μA
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = 4.5V, I_D = 15A		5.5	9	mΩ
		V_{GS} = 10V, I_D = 20A		4.3	6	mΩ
Forward Transconductance[1]	g_{fs}	V_{DS} = 5V, I_D = 20A		50		S
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 15V, f = 1MHz		1540		pF
Output Capacitance	C_{oss}			254		pF
Reverse Transfer Capacitance	C_{rss}			161		pF
Gate Resistance	R_g	V_{GS} = 0V, V_{DS} = 0V, f = 1MHz		1		Ω
Total Gate Charge[2]	Q_g V_{GS} = 10V	V_{DS} = 15V , I_D = 20A		30		nC
	Q_g V_{GS} = 4.5V			16		nC
Gate-Source Charge[2]	Q_{gs}			4.8		nC
Gate-Drain Charge[2]	Q_{gd}			7.4		nC
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS} = 15V , $I_D \cong$ 20A, V_{GS} = 10V, R_{GEN} =6Ω		19		nS
Rise Time[2]	t_r			10		nS
Turn-Off Delay Time[2]	$t_{d(off)}$			40		nS
Fall Time[2]	t_f			12		nS
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_J = 25 °C)						
Continuous Current[3]	I_S				14.8	A
Forward Voltage[1]	V_{SD}	I_F = 20A, V_{GS} = 0V			1.2	V
Reverse Recovery Time	t_{rr}	I_F = 20A, dI_F/dt = 100A / μS		16		nS
Reverse Recovery Charge	Q_{rr}			6		nC

[1]Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.
[2]Independent of operating temperature.
[3]Package limitation current is 22A

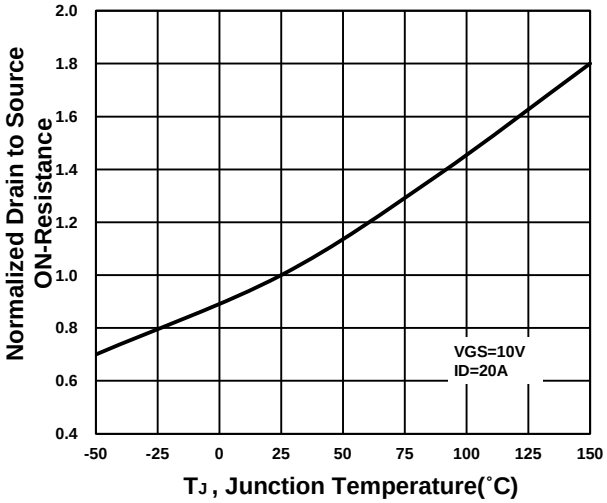
Output Characteristics



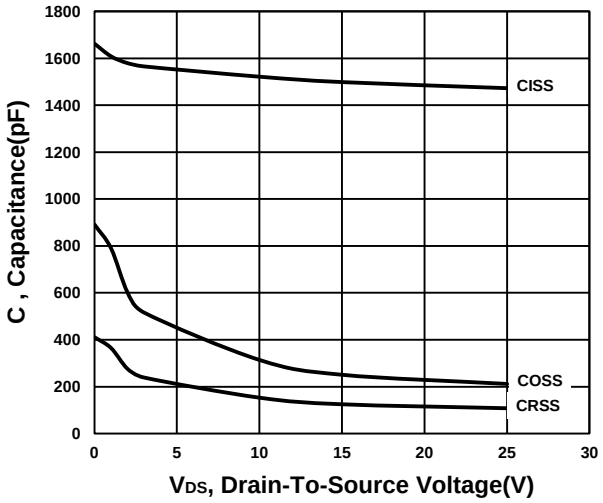
Transfer Characteristics



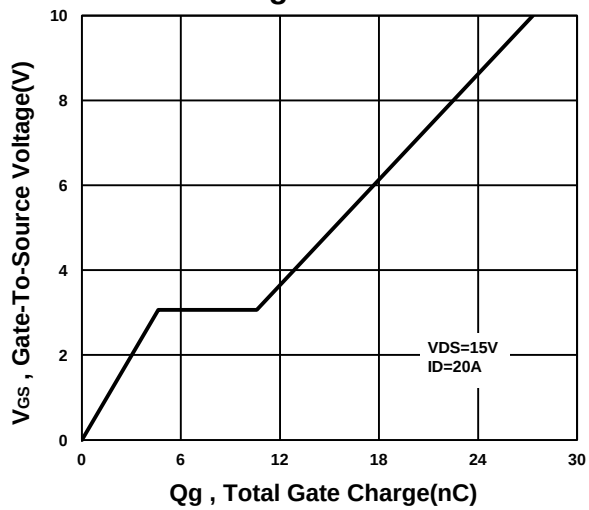
On-Resistance VS Temperature



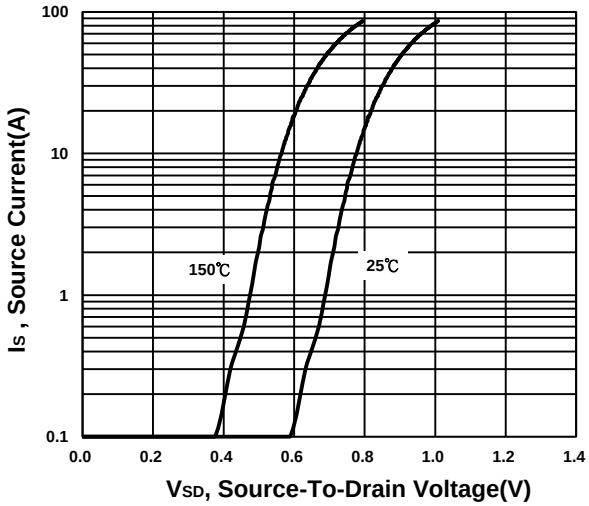
Capacitance Characteristic



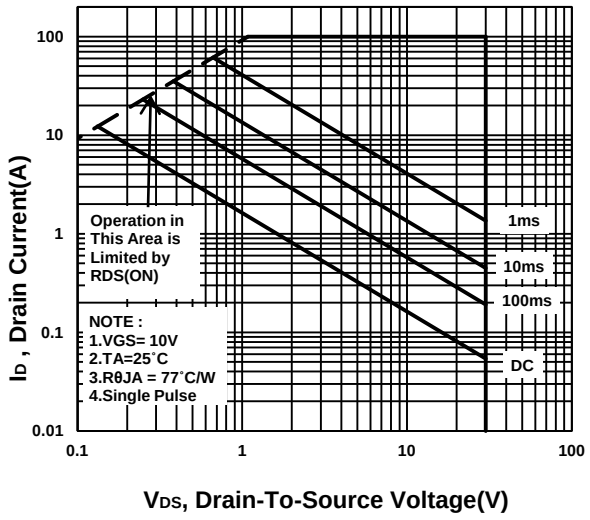
Gate charge Characteristics



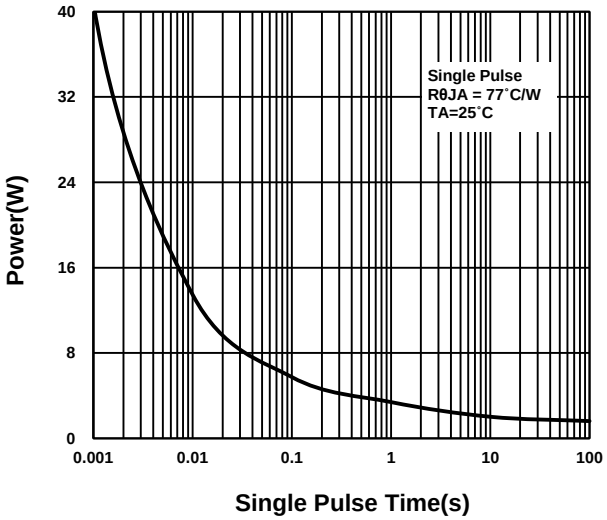
Source-Drain Diode Forward Voltage



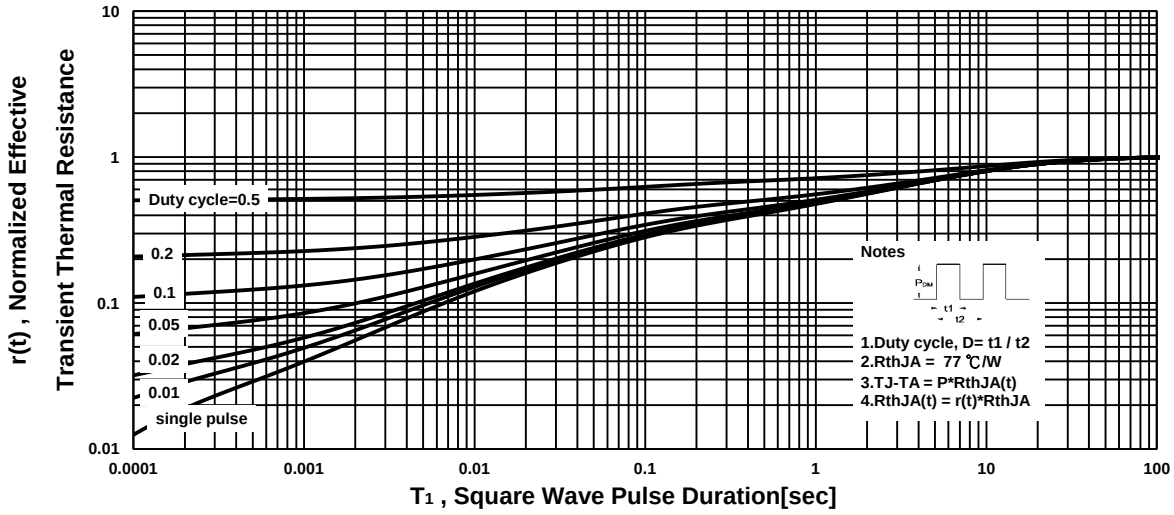
Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve



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.